DEPARTMENT OF DEFENSE
BOARD OF ACTUARIES
4800 MARK CENTER DRIVE, SUITE 03E25
ALEXANDRIA, VA 22350

August 20, 2020

MEMORANDUM FOR THE RECORD

SUBJECT: Minutes of the June 26, 2020, Meeting of the DoD Board of Actuaries

The Military Retirement Fund and Voluntary Separation Incentive Fund were discussed from 10:00 AM to 11:10 AM and the Education Benefits Fund was discussed from 11:15 AM to 12:20 PM. The DoD Board of Actuaries advises on all three funds.

List of Attachments:

1 - Meeting agenda
2 - Complete list of attendees
3 - Meeting handouts
4 - Meeting transcript

We have reviewed and agree with the meeting minutes. Responsibility for the accuracy of each attachment resides with the organization creating it.

Marcia A. Dush
____
Marcia A. Dush, Chairperson
DoD Board of Actuaries

Inger M. Pettygrove
____
Inger M. Pettygrove
Designated Federal Officer

DEPARTMENT OF DEFENSE BOARD OF ACTUARIES MEETING MINUTES

June 26, 2020

Virtual Meeting

MILITARY RETIREMENT FUND/VOLUNTARY SEPARATION INCENTIVE FUND

HIGHLIGHTS/KEY BOARD DECISIONS

Agenda Item 1: September 30, 2019, Valuation of the Military Retirement Fund

- Transcript Pages 7-8: Starting population and total annualized pay for active duty, selected drilling reservists, non-selected reservists, disabled retirees, nondisabled retirees, and survivors were presented to the Board members.
- Transcript Pages 8-9: Unfunded Accrued Liability (UFL) as of September 30, 2019, was $755.7 billion. DoD normal cost percentages for FY 2020 are 35.3% and 27.2% for full-time and part-time, respectively.
- Transcript Pages 9-10: Total change in UFL was a loss of $92 billion. Assumption changes led to $75 billion loss, where loss of $67 billion was due to 0.25% lower real interest assumption.
- Transcript Pages 10-11: The Treasury's FY 2021 amortization payment for the UFL is $98.106 billion, and Treasury's unsequestered normal cost payment for Concurrent Receipt benefits is $10.736 billion, for a combined Treasury payment of $108.842 billion.

Agenda Item 2: September 30, 2020, Valuation of the Military Retirement Fund, Proposed Methods and Assumptions

- Transcript Pages 12-25: Approved long-term economic assumptions for the 9/30/2020 valuation and FY 2022 normal cost percentages (NCPs) of 4.25% interest rate (0.50% decrease from last year), 2.75% across-the board salary increase (0.50% decrease from last year), and 2.50% COLA (0.25% decrease from last year). The net effect was to increase the full-time NCP by 1.6%, and increase the part-time NCP by 1.1%.

- Transcript Pages 27-35: Approved the proposed disabled decrement rates (increased NCPs 0.2% full-time, 0.9% part-time), mortality improvement scales (decreased NCPs 0.0% full-time, -0.1% part-time), disability VA offset parameters (decreased NCPs -1.0% full-time, -1.2% part-time), and reserve rates/factors (decreased NCPs -0.1% fulltime, -1.6% part-time)

- Transcript Pages 36-41: Approved FY2022 DoD NCPs of 35.1% (full-time) and 25.7% (part-time) and estimated Treasury NCPs of 16.5% for full-time and 4.4% for part-time.

Agenda Item 3: September 30, 2019, VSI Fund Valuation, Proposed Methods and Assumptions

- Transcript Pages 45-56: Approved economic assumptions of 2.25% interest (unchanged from last year), 2.2% COLA (unchanged from last year), and 1.0% VA increase, (unchanged from last year), leading to a January 1, 2022, amortization payment of $15.7 million.

EDUCATION BENEFITS FUND

HIGHLIGHTS/KEY BOARD DECISIONS

Agenda Item 4: Education Benefits Fund Overview

- Transcript Pages 57-66: Education benefit programs and their usage model were presented.

Agenda Item 5: September 30, 2019, Valuation Proposed Economic Assumptions

- Transcript Pages 66-70: The Board approved an interest rate assumption of 2.75% (0.5% decrease from last year).

Agenda Item 6: September 30, 2019, Valuation Proposed Methods and Assumptions

- Transcript Pages 76-78: The Board approved continuing to use Blue Chip Financial Forecasts to estimate CPI for Chapter 1606 basic benefit, leading to an ultimate CPI of 2.1%. Approved interest rate assumption of 2.75% (0.5% decrease from last year).

- Transcript Page 70-87: The Board approved using the same methodology as last year for determining the Chapter 1606 basic and kicker per capita amounts and amortization payments and for transferring the assets between Chapter 1607 and Chapter 1606 after Chapter 1607 sunsets.

- Transcript Pages 87-104: The Board approved using the same valuation method at the approved interest rate, leading to an amortization payment of $1.6 million from the Navy on October 1, 2021, for the Chapter 30 kicker benefit, and a combined $29,095 from the DoD services for the Cat 3 benefit on October 1, 2020.

- Transcript Page 98: The Board asked OACT to talk to the appropriate advisors and perhaps garner legislative support for some method to be able to utilize the surplus, particularly the Army surplus.

ATTACHMENT 1

DEPARTMENT OF DEFENSE BOARD OF ACTUARIES MEETING AGENDA

Friday, June 26, 2020
10:00 AM—1:00 PM EST
Virtual Meeting (CVR/MS Teams)

CVR/MS Teams Link: https://teams.microsoft.com/l/meetup-join/19%3ameeting_NGQ3MDI3MjUtYzEzYi00NjhjLTkxMzMtNzJjZDcyOWE4MTYz%40thread.v2/0?context=%7b%22Tid%22%3a%2221acfbb3-32be-4715-9025-1e2f015cbbe9%22%2c%22Oid%22%3a%22c1dce3b4-ecb2-465c-b868-02361f507e16%22%7d

Call-In (for audio only): Dial: 571-388-3904 // Conference ID: 348 981 748#

***** Please ensure your audio is muted when not speaking or actively participating. *****

[* Indicates Board approval required.]

MILITARY RETIREMENT FUND (MRF)

1. September 30, 2019, Valuation of the Military Retirement Fund*

   a. Starting Population (Pete Rossi, DoD Office of the Actuary)
   b. Valuation Results (Pete Rossi)
   c. Gain/Loss Analysis (Pete Rossi)
   d. 10/1/2020 Unfunded Liability Amortization and Normal Cost Payments (Pete Rossi)

2. September 30, 2020, Valuation of the Military Retirement Fund, Proposed Methods and Assumptions*

   a. Economic Assumptions – COLA, Interest Rate, and Across-the-Board Salary Increases

      i. Environmental Scan of Economic Assumptions (Pete Rossi)
      ii. Fund Yield Projection (Pete Rossi)

   b. Non-Economic Assumptions (Pete Rossi, Nick Garcia, DoD Office of the Actuary)

   c. FY 2022 Full-Time and Part-Time Normal Cost Percentages (Pete Rossi)

VOLUNTARY SEPARATION INCENTIVE (VSI) FUND

3. September 30, 2019, VSI Fund Valuation, Proposed Methods and Assumptions*

    a. Interest Rate (Hyung Ju Ham, DoD Office of the Actuary)
    b. Valuation Update and Other Assumptions (Hyung Ju Ham)
    c. Unfunded Liability Amortization Payments (Hyung Ju Ham)

EDUCATION BENEFITS FUND

4. Fund Overview (Richard Allen, DoD Office of the Actuary)

5. September 30, 2019, Valuation Proposed Economic Assumptions (Hyung Ju Ham)*

6. September 30, 2019, Valuation Proposed Methods and Assumptions*

    a. Reserve Programs (Richard Allen)
    b. Active Duty Programs (Richard Allen)

* Indicates Board approval required

ATTACHMENT 2

Department of Defense Board of Actuaries Meeting
Attendee List

Name	Position or Office
Marcia Dush	Chairperson
John Moore	Board Member
Mike Clark	Board Member
Pete Zouras	DoD Chief Actuary and Executive Secretary
Pete Rossi	Deputy Chief Actuary
Hyung J. Ham	OACT
Nick Garcia	OACT
Richard Allen	OACT
Inger Pettygrove	OACT, DFO
Chelsea Chu	OACT
Bil Moorhouse	Advisor
James Fasano	Advisor
Andy Corso	Advisor
Thomas Liuzzo	Advisor
Patty Leopard	Advisor
Jeff Goldstein	OMB
Anita Chellaraj	OMB
David Rafferty	CBO
Stephanie Simonich	Metis Solutions
Brent Mowery	Korn Ferry
Craig Graby	Korn Ferry
Neil Thompson	VA
Christina DiTucci	VA
Colleen Hartman	Comptroller
Alicia Litts	Comptroller
Pete Abraham	DMDC
Schileen Potter	DMDC
Donald E. Sutton, III	ARNG
Rick Virgile	USCG

Debora K. Staton	USARC
Gayla Cummings	USARC
Ody Curic	Advisory Committee on Industrial Security and Industrial Base Policy (CISIBP)
Gerald Davenport	DFAS
Edith Smith	Capital Crusader
CPT Darius R Hinton	ARNG
Paul Dotto	OPM

ATTACHMENT 3

Meeting Handouts for the
Department of Defense Board of Actuaries Meeting
(Military Retirement Fund and VSI Fund)

DoD Board of Actuaries Legislative and Policy Update

Mr. Andrew Corso
Assistant Director, Military Compensation Policy
Retired and Annuitant Pay
ODASD(MPP-Compensation)
June 24, 2020

PERSONNEL AND READINESS

Agenda

- Blended Retirement System Implementation
  - Current Status
- Recent Legislative Changes
  - FY2020 National Defense Authorization Act
- Pending Legislative Changes
  - FY2021 National Defense Authorization Act

Blended Retirement System

Blended Retirement System Update

- **In Service as of May 30, 2020:**

(number in parentheses shows increase/decrease since last year's update)

	Full-Time	Part-Time	**Total**
Opted In	300,249 *(-16,647)*	101,526 *(+13,559)*	**401,775** *(-3,088)*
Auto-Enrolled	315,377 *(+128,395)*	121,394 *(+59,417)*	**436,771** *(+187,812)*
Total In-Service Participants as of May 30, 2020			**838,546**
Net Increase Since June 30, 2019			**+184,724**

- **Lump Sum:**
  - As of June 24, no members have elected lump sum
  - Discount rate for CY21 will be 6.73% (-0.02% from CY20)

Recent Legislation

FY 2020 National Defense Authorization Act

- **Basic Pay**
  - Pay raise was 3.1% (MRF Impact: MINIMAL)
- **Repeal of SBP-DIC Offset** (MRF Impact: MAJOR)
  - Phases-out offset over 3 years
    - SBP is offset by 2/3 of DIC in 2021
    - SBP is offset by 1/3 of DIC in 2022
    - No offset in 2023, eliminates Special Survivor Indemnity Allowance (SSIA)
  - Prohibits retroactive benefits and having to repay previously refunded premiums
  - Repeals authority for optional child annuity (for deaths on active/inactive duty)
  - Restores eligibility to spouses if they previously took optional child annuity
- **Reduced Age of Eligibility for Retired Pay for Non-Regular Service**
  - Allows credit for reduced-age, non-regular retirement for every 90 days of service performed under 10 U.S.C. 12304b (preplanned Combatant Commander support) (MRF Impact: MINIMAL)

Recent Legislation

FY 2020 National Defense Authorization Act, continued

- **Authority to Defer Retirement of GO/FO Chaplains Past Age 64**
  - Previous authority was temporary, now permanent (MRF Impact: MINIMAL)
- **Report on Military Retirement Fund**
  - Report on implementing MRF contributions on per-Service cost rather than single rate (MRF Impact: MINIMAL, although associated impacts are substantial)
- **Report on Blended Retirement System**
  - **Senate:** Report on BRS implementation, due to Senate September 2020
- **Report on Thrift Savings Plan**
  - **House:** Report on benefit of adjusting the automatic enrollment contribution from 3 percent to 5 percent, due to House June 2020

Pending Legislation

FY 2021 National Defense Authorization Act

- **Basic Pay**
  - Pay raise anticipated to be 3.0% (MRF Impact: MINIMAL)
- **House and Senate bills not yet released**

Military Retirement Fund Board of Actuaries Meeting

Defense Finance and Accounting Service

Coralita Jones / Lori Haines
Trust Funds Accounting and Reporting Division
Defense Finance and Accounting Service

June 26, 2020

AGENDA

- Overview
- Financial Data
- Fund Status

OVERVIEW

- Short Term Liquidity
  - ✓ Invested approx $90.0B in October (Treas contrib $100.4B)
  - ✓ Off cycle investment of $20.0B in May
  - ✓ Inflows exceeding outflows
    - ✓ FY 2020 payments through May $41.4B
    - ✓ FY 2020 receipts through May $126.1B
    - ✓ FY 2020 overnights/cash as of 31 May $21.0B

- Blended Retirement
  - ✓ Working closely with DoD Office of the Actuary
  - ✓ Full implementation by 2021

- Long Term Liquidity
  - ✓ New investing for FY 2021
    - ✓ As of EOM May, $90.0B
    - ✓ Average 20-year term
  - ✓ FY 2022-2025 projected investments of $443.0B

Summary Financial Analysis

Year Ended September 30

(In Billions)

	FY 2019	FY 2018	% Change
Service Contributions	$20.5	$18.4	11%
Unfunded Liability Contribution	88.0	82.9	6%
Concurrent Receipts Contribution	7.9	6.8	16%
Interest Income	26.7	30.5	-12%
Total Revenue	$143.1	$138.6	3%
Benefit Payments	$60.7	$54.5	11%
Total Expense	$60.9	$59.0	3%

Summary Financial Analysis

Year Ended September 30

(In Billions)

Interest Income

	FY 2019	FY 2018	$Change
Interest Revenue--Par	$20.5	$19.1	$1.4
Interest Revenue--Inflation	11.2	16.4	-$5.2
Interest Revenue--Discount	0.3	0.3	$0.0
Interest Revenue--Premium	-5.3	-5.3	$0.0
	$26.7	$30.5	-$3.8

FINANCIAL DATA

Military Retirement Fund
For the Year Ending September 30, 2019

	(in millions)
Assets	
Fund Balance with Treasury	$75.2
Investments	
Overnight	$8,049.3
Long term	
Par	$694,957.7
Inflation purchased	$46,556.9
Inflation earned	$77,849.9
Premium outstanding	$71,287.2
Discount outstanding	-$7,535.7
Interest receivable	$5,606.2
Total Long Term Investments	$888,722.2
Total Investments	$896,771.5
Accounts Receivable, net	$142.1
Total Assets	$896,988.8
Liabilities	
Military Retirement and Other Federal Employment Benefits	
Benefits Payable to Beneficiaries	$5,025.4
Actuarial Liability	$1,754,187.0
Total Military and Other Federal Employment Benefits	$1,759,212.4
Other Liabilities	$4.4
Total Liabilities	$1,759,216.8
Net Position	
Cumulative Results of Operations	-$862,228.0
Total Liabilities and Net Position	$896,988.8

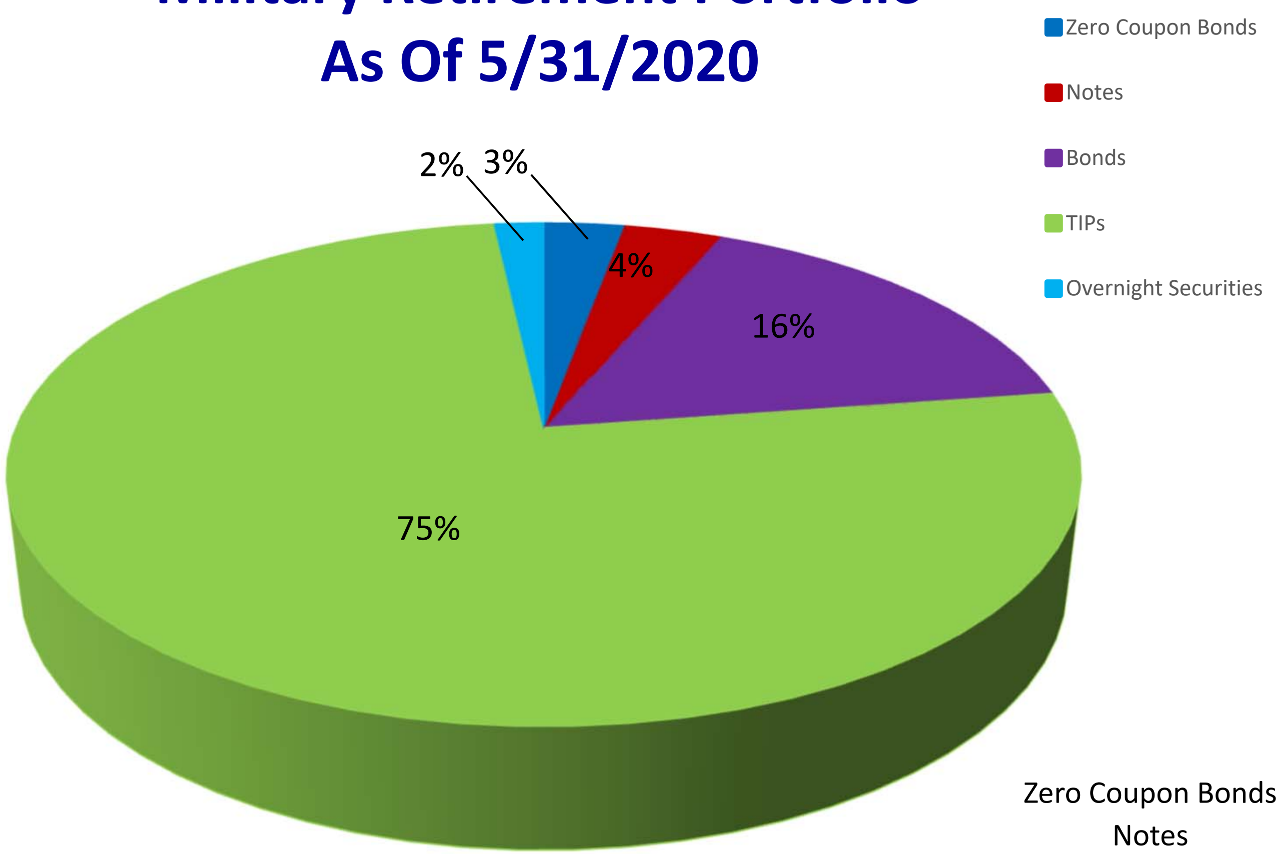
FINANCIAL DATA Updated

Effective Fund Yields

FY	Yield
2010	3.22%
2011	4.89%
2012	2.94%
2013	3.10%
2014	3.16%
2015	1.79%
2016	2.34%
2017	2.92%
2018	3.82%
2019	3.01%

FUND STATUS

Military Retirement Portfolio As Of 5/31/2020



Zero Coupon Bonds	$34.0
Notes	$42.2
Bonds	$192.2
TIPs	$893.8
Overnight Securities	$21.0
Total (in Billions)	$1,183.2

FUND STATUS

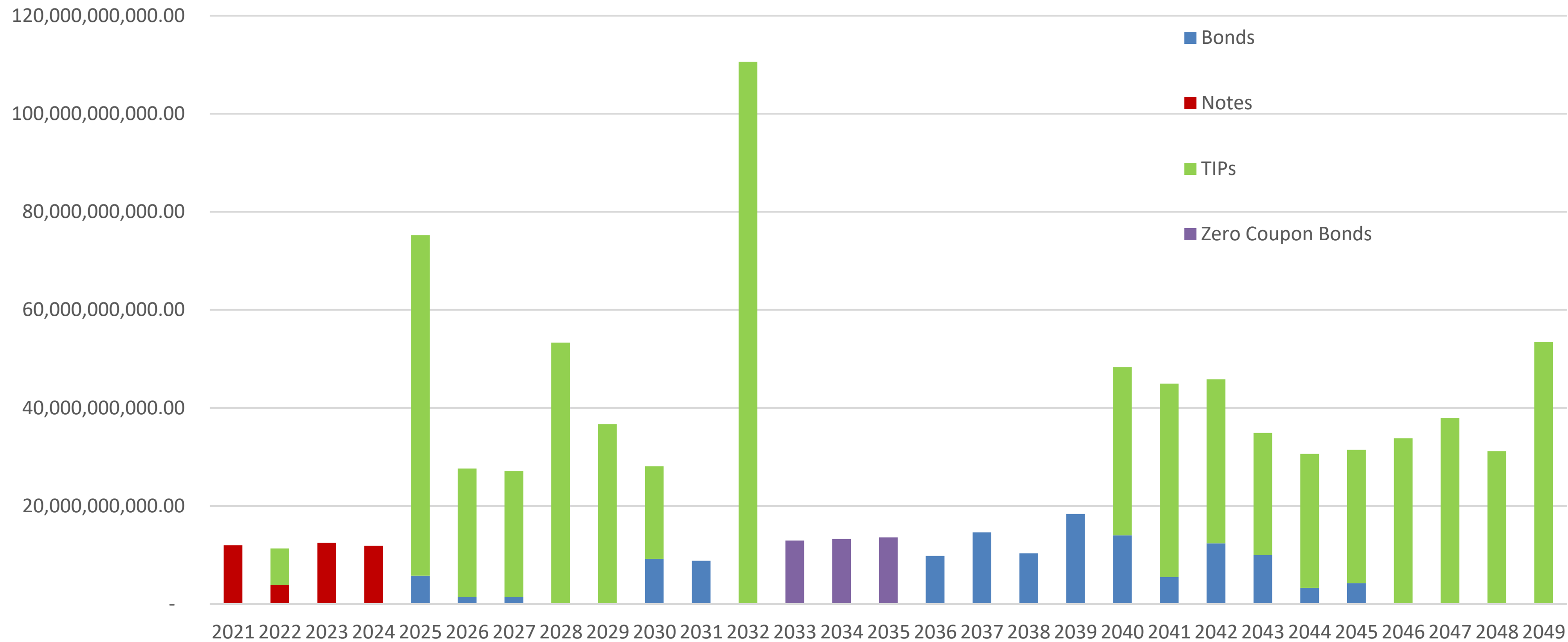
Security Description	Shares Par	Inflation Compensation	Book Value	Market Value
INTEREST ZCB 08/15/33	12,949,000,000.00	-	10,124,348,592.86	11,250,942,855.73
INTEREST ZCB 08/15/34	13,268,000,000.00	-	10,126,523,648.81	11,320,970,489.64
INTEREST ZCB 08/15/35	13,593,000,000.00	-	10,128,651,918.42	11,376,178,798.50
Zero Coupon Bond Total	**39,810,000,000.00**	**-**	**30,379,524,160.09**	**33,948,092,143.87**
MK BOND 2.500% 02/15/2045	4,280,660,325.79	-	4,040,598,949.63	5,274,576,145.18
MK BOND 2.750% 11/15/2042	6,681,701,480.89	-	6,583,407,850.62	8,531,697,578.41
MK BOND 3.000% 05/15/2042	6,695,039,147.53	-	6,903,964,855.11	8,893,941,067.55
MK BOND 3.125% 02/15/2042	2,864,461,876.61	-	3,042,334,273.07	3,876,870,121.12
MK BOND 3.125% 02/15/2043	3,349,775,799.13	-	3,544,508,767.26	4,534,758,988.07
MK BOND 3.125% 11/15/2041	2,818,271,057.13	-	2,976,476,366.28	3,805,546,636.83
MK BOND 3.500% 02/15/2039	6,039,034,048.35	-	6,150,379,784.13	8,547,120,376.56
MK BOND 3.625% 02/15/2044	3,321,324,845.08	-	3,823,807,644.38	4,858,475,499.94
MK BOND 4.250% 05/15/2039	6,479,267,826.79	-	7,626,344,466.15	10,016,543,105.98
MK BOND 4.250% 11/15/2040	5,520,767,853.28	-	6,816,088,690.83	8,617,573,570.98
MK BOND 4.375% 02/15/2038	5,958,635,328.03	-	6,853,313,764.14	9,258,229,640.93
MK BOND 4.375% 05/15/2040	4,793,071,508.45	-	6,005,664,861.94	7,573,052,983.35
MK BOND 4.375% 11/15/2039	6,831,664,626.58	-	8,185,784,894.60	10,740,657,730.10
MK BOND 4.500% 02/15/2036	9,826,753,606.74	-	11,877,496,884.09	15,050,287,320.82
MK BOND 4.500% 05/15/2038	4,396,913,844.83	-	5,310,256,434.97	6,933,383,519.07
MK BOND 4.500% 08/15/2039	5,861,210,424.29	-	7,187,610,312.90	9,328,482,715.91
MK BOND 4.625% 02/15/2040	2,399,775,551.83	-	3,126,192,590.90	3,891,386,043.26
MK BOND 4.750% 02/15/2037	9,697,894,474.30	-	11,831,434,200.14	15,492,386,422.69
MK BOND 5.000% 05/15/2037	4,912,921,714.87	-	6,252,192,827.33	8,064,868,052.57
MK BOND 5.375% 02/15/2031	8,811,621,354.43	-	11,072,609,890.49	13,126,562,186.43
MK BOND 6.000% 02/15/2026	1,400,000,000.00	-	1,572,627,602.64	1,842,312,500.00
MK BOND 6.250% 05/15/2030	9,225,255,976.51	-	12,068,822,927.27	14,238,606,021.24
MK BOND 6.625% 02/15/2027	1,400,000,000.00	-	1,647,112,555.87	1,969,187,500.00
MK BOND 6.875% 08/15/2025	3,800,000,000.00	-	4,567,467,830.82	5,082,500,000.00
MK BOND 7.625% 02/15/2025	2,000,000,000.00	-	2,334,332,672.13	2,683,750,000.00
Bond Total	**129,366,022,671.44**	**-**	**151,400,831,897.69**	**192,232,755,726.99**
MK NOTE 1.125% 06/30/2021	11,991,405,616.22	-	12,041,637,798.80	12,111,319,672.38
MK NOTE 1.625% 08/15/2022	3,925,267,912.20	-	3,969,353,871.87	4,050,385,826.90
MK NOTE 2.000% 02/15/2023	12,496,163,515.85	-	12,773,985,995.34	13,105,351,487.25
MK NOTE 2.750% 02/15/2024	11,884,976,088.44	-	12,533,495,301.93	12,984,336,376.62
Note Total	**40,297,813,132.71**	**-**	**41,318,472,967.94**	**42,251,393,363.15**

FUND STATUS cont.

Security Description	Shares Par	Inflation Compensation	Book Value	Market Value
MK TIPS 0.125% 01/15/2030	18,805,010,160.27	62,056,533.53	19,956,981,174.59	20,034,466,445.48
MK TIPS 0.125% 07/15/2022	6,605,000,000.00	809,112,500.00	7,526,879,723.63	7,492,887,445.31
MK TIPS 0.625% 02/15/2043	22,156,985,598.00	2,719,769,982.15	22,147,691,131.30	28,755,974,653.43
MK TIPS 0.750% 02/15/2042	29,278,329,999.00	4,168,648,625.26	32,707,805,554.58	39,362,912,968.42
MK TIPS 0.750% 02/15/2045	24,791,139,787.00	2,384,659,736.11	26,733,545,729.97	32,653,421,614.49
MK TIPS 0.875% 02/15/2047	35,491,724,098.11	2,461,351,066.21	37,412,294,760.74	47,559,947,315.28
MK TIPS 1.000% 02/15/2046	31,047,295,342.32	2,776,249,149.51	35,715,741,965.46	43,135,589,084.74
MK TIPS 1.000% 02/15/2048	29,787,977,975.60	1,393,481,609.70	30,815,289,497.00	40,477,432,224.17
MK TIPS 1.000% 02/15/2049	52,067,680,448.21	1,344,387,509.17	60,267,075,023.47	70,136,721,736.54
MK TIPS 1.375% 02/15/2044	24,671,862,429.00	2,654,445,678.74	29,827,714,653.70	36,685,568,634.64
MK TIPS 1.750% 01/15/2028	7,000,000,000.00	1,625,120,000.00	9,804,712,579.71	10,139,906,700.00
MK TIPS 2.000% 01/15/2026	20,167,675,000.00	6,061,798,074.75	26,606,132,809.29	29,934,386,146.56
MK TIPS 2.125% 02/15/2040	28,691,811,638.98	5,574,532,083.34	41,104,521,268.43	49,579,116,073.23
MK TIPS 2.125% 02/15/2041	33,452,277,019.97	5,979,259,994.55	47,914,716,626.13	57,828,813,502.86
MK TIPS 2.375% 01/15/2025	50,700,000,000.00	18,730,101,000.00	72,330,404,720.85	78,672,983,195.63
MK TIPS 2.375% 01/15/2027	20,071,880,000.00	5,620,327,118.80	26,609,557,559.15	30,702,187,506.97
MK TIPS 2.500% 01/15/2029	7,000,000,000.00	1,416,100,000.00	10,190,824,886.11	10,617,436,156.25
MK TIPS 3.375% 04/15/2032	76,051,206,552.50	34,547,781,600.60	123,374,087,280.56	161,681,895,806.32
MK TIPS 3.625% 04/15/2028	28,000,000,000.00	16,687,440,000.00	48,241,609,578.98	59,210,858,000.00
MK TIPS 3.875% 04/15/2029	18,000,000,000.00	10,263,960,000.00	31,551,795,313.63	39,198,579,525.00
TIPS Total	**563,837,856,048.96**	**127,280,582,262.42**	**740,839,381,837.28**	**893,861,084,735.32**
ONE DAY 0.140% 06/01/2020	**20,947,217,351.10**	-	**20,947,380,273.90**	**20,947,217,351.10**
Total Portfolio	**794,258,909,204.21**	**127,280,582,262.42**	**984,885,591,136.90**	**1,183,240,543,320.43**

FUND STATUS

MRF Maturities
As of May 31, 2020



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
12.0	11.3	12.5	11.9	75.2	27.6	27.1	53.3	36.7	28.1	8.8	110.6	12.9	13.3	13.6	9.8	14.6	10.4	18.4	48.3	45.0	45.8	34.9	30.7	31.5	33.8	38.0	31.2	53.4

STARTING POPULATION AS OF SEPTEMBER 30

	2018	2019
Total Active Duty Personnel + Full-Time Reservists	1,382,518	1,409,076
Total Annualized Basic Pay	$59.79 billion	$62.75 billion
Non-BRS (2018 estimated, see Note below)	*610,455*	*900,362*
Total Annualized Basic Pay	*$35.87 billion*	*$46.25 billion*
BRS (estimated, see Note below)	*772,063*	*508,714*
Total Annualized Basic Pay	*$23.92 billion*	*$16.50 billion*
Total Selected Drilling Reservists	716,997	716,642
Total Annualized Basic Pay	*$7.92 billion*	*$8.27 billion*
Non-BRS (estimated, see Note below)	*552,968*	*543,380*
Total Annualized Basic Pay	*$6.64 billion*	*$6.78 billion*
BRS (estimated, see Note below)	*164,029*	*173,262*
Total Annualized Basic Pay	*$1.29 billion*	*$1.49 billion*
Total Non-Selected Reservists (with 20 years)	203,157	196,814
Total Annualized Basic Pay	-N/A-	-N/A-
Total Number of Nondisability Retirees	1,878,093	1,876,780
Total Annualized Retired Pay	$53.40 billion	$55.10 billion
Total Number of Disability Retirees	123,261	125,930
Total Annualized Retired Pay	$1.72 billion	$1.81 billion
Total Number of Surviving Families	279,912	317,253
Total Annualized Survivor Annuities	$3.69 billion	$3.99 billion
Total Number of Special Survivor Indemnity Recipients	65,460	-N/A-
Total Annualized Allowance	$243 million	

Notes: For 2018, personnel and pay splits between those expected to opt in to the Blended Retirement System (BRS) and those not expected to opt in, are based on assumptions, not actual data. The "BRS" figures above for 2018 include 9 months of actual data for service members who were auto-enrolled due to having been hired after the start of the Open Season (i.e., December 31, 2017). For 2019, BRS and non-BRS splits use actual opt-in data. For 2018, there is overlap between the Surviving Families and Special Survivor Indemnity Allowance counts; some people are included in both. Reflected for 2019 is the phased repeal of the offset to survivor pay due to VA's Dependency and Indemnity Compensation, as well as the end to Special Survivor Indemnity Allowance.

MILITARY RETIREMENT SYSTEM
ACTUARIAL STATUS INFORMATION

($ in billions)

	9/30/19	9/30/18	Difference	
1. Present Value of Future Benefits (PVFB)				
a. Retirees and Survivors	$1,060.4	$994.1	$66.3	7%
b. Reserves	$219.2	$201.1	$18.1	9%
c. Active Duty	$690.7	$602.8	$87.9	15%
TOTAL	$1,970.3	$1,798.0	$172.3	10%
2. Present Value of Future Normal Cost Contributions (PVFNC) [1]	$317.7	$264.6	$53.1	20%
3. Actuarial Accrued Liability (1 - 2)	$1,652.7	$1,533.4	$119.3	8%
4. Actuarial Value of Assets [2]	$897.0	$813.9	$83.1	10%
5. Unfunded Accrued Liability (3 - 4)	$755.7	$719.6	$36.1	5%
6. Valuation DoD Normal Cost Percentage (NCP)	FY 2020	FY 2019		
a. Full-time	35.3%	31.4%		3.9%
b. Part-time	27.2%	24.7%		2.5%
7. Implemented DoD Normal Cost Percentage, Applied to Basic Pay in Fiscal Year [3]	FY 2021	FY 2020		
a. Full-time	34.9%	31.0%		3.9%
b. Part-time	26.9%	24.4%		2.5%
8. Implemented Treasury Normal Cost Percentage, Applied to Basic Pay in Fiscal Year [4]	FY 2021	FY 2020		
a. Full-time	15.9%	14.2%		1.7%
b. Part-time	4.2%	3.8%		0.4%

[1] 9/30/19 PVFNC reflects a reduction of $800.230 million due to sequestration of the 10/1/2019 Treasury Concurrent Receipt normal cost contribution. The 9/30/18 PVFNC reflects a reduction of $753.681 million due to sequestration of the prior Treasury Concurrent Receipt normal cost contribution.

[2] The following is a reconciliation of assets during FY19 ($ in billions):

	PLUS Contributions				MINUS	
Beg. of Year	DoD Accrual	Treas. Accrual	Unfund. Liab.	Int. Income	Fund Disb.	End of Year
$813.9	$20.5	$7.9	$88.0	$27.4	$60.7	$897.0

[3] Line 7 may differ from Line 6 in the portion of military personnel assumed to be under the Final Pay, Hi-3, REDUX, and Blended Retirement System retirement benefit formulas.
(Prior to reflecting NDAA 2020 provisions, FY 2021 DoD NCPs were 34.6% (full-time) and 26.7%, and FY 2020 Treasury NCPs were unchanged.)

[4] Line 8 refers to the increase in the normal cost due to concurrent receipt benefits, which is paid by Treasury.

NOTE: Some figures may not add precisely due to rounding.

*** The data and assumptions supporting this handout are to be summarized in the DoD Office of the Actuary's September 30, 2019, Valuation of the Military Retirement System.

Long-Term Economic Assumptions

9/30/18 Val	9/30/19 Val
COLA (2.75%)	COLA (2.75%)
Salary (3.25%)	Salary (3.25%)
Interest (5.00%)	Interest (4.75%)

9/30/2019 CHANGE IN UNFUNDED LIABILITY

($ in billions)

(A Negative Change Indicates a Gain and
A Positive Change Indicates a Loss)

1. 9/30/18 Unfunded Liability	$719.6		
2. 10/01/18 Amortization Payment on Unfunded Liability	$88.0		
3. Interest Assumption	1.05		
4. Expected Unfunded Liability on 9/30/19 (1 - 2) X 3	$663.1		
5. Actual Unfunded Liability	$755.7		
6. Total Change in Unfunded Liability (5 - 4)	**$92.5**	5.6%	
A. Total Experience (gain) loss	**$3.0**	0.2%	
1. COLA, Salary, and Interest	$5.1	0.3%	
a. Interest [1]:	$16.9	1.0%	--> 1.9%
b. Salary [2]:	-$0.5	0.0%	
c. COLA [3]:	-$11.4	-0.7%	
2. Noneconomic Experience:	-$2.1	-0.1%	
B. 10/1/19 unpaid contribution [4]:	**$0.8**	0.0%	
C. Total benefit change (gain) loss:	**$13.4**	0.8%	
1. SBP-DIC Repeal Phase-in	$13.5	0.8%	
2. Include 12304b Reserve Activations	$0.0	0.0%	
D. Total assumption change (gain) loss	**$75.2**	4.6%	
1. Actual BRS data[5]:	$7.5	0.5%	
2. Updated Divorce Rates:	$0.4	0.0%	
3. Lower Real Interest Rate by 0.25%[6]:	$67.4	4.1%	

(Percentages shown are ratios of values of each gain or loss component to the accrued liability; the ratio of the interest gain to the actuarial value of assets is shown as well).

[1] Valuation assumption: 4.75% investment return; FY19 dollar-weighted fund yield: 3.0%
[2] Valuation assumption: 3.25% long-term salary; 1/1/20 across-the-board pay increase: 3.1%
[3] Valuation assumption: 2.75% long-term COLA; 1/1/20 COLA: 1.6%
[4] Loss due to $800.230 million sequestration (reduction) to the 10/1/2019 Treasury Concurrent Receipt normal cost contribution.
[5] Loss due to use of actual opt-in data for the Blended Retirement System (BRS) during 2018.
[6] Loss due to lowering real rate of interest assumption to 2.00% (from 2.25%).

NOTE: Some figures may not add precisely due to rounding.

*** The data and assumptions supporting this handout are to be summarized in the DoD Office of the Actuary's September 30, 2019, valuation of the Military Retirement System.

TOTAL TREASURY PAYMENT

($ in billions)

	October 1, 2020	October 1, 2019
1. Amortization Payment for:		
a. Initial Unfunded Liability	$100.414	$98.057
b. Benefits Changes	$9.196	$8.858
c. Actuarial Assumptions	$9.550	$6.361
d. Actuarial Experience	($21.892)	($22.194)
e. Prior year unpaid contribution [1]	$0.838	$0.791
Total amortization payment	**$98.106**	**$91.873**
2. Normal Cost payment [2]	**$10.736**	**$8.505**
3. Total Treasury payment	**$108.842**	**$100.378**

In reference to the October 1, 2020, amortization payments, the remaining amortization period for 1.a. is 6 years; 1.b. is 17 years; 1.c. is 27 years; 1.d. is 12 years; and 1.e. is 1 year.

[1] Prior year unpaid contribution of $838 million is due to 8.6% sequestration of the 10/1/2019 Treasury Concurrent Receipt normal cost contribution ($838 million is equal to $800.230 million plus one year of interest at the assumed rate of 4.75%). It is treated as an actuarial experience loss, and amortized over one year.

[2] Treasury contribution to pay for Concurrent Receipt benefits. The 10/1/2019 normal cost payment of $8.505 billion is net of the $800.230 million sequestration reduction. The 10/1/2020 normal cost payment of $10.736 billion does not reflect an expected sequestration reduction.

NOTE: Some figures may not add precisely due to rounding.

*** The data and assumptions supporting the October 1, 2020, payment are to be summarized in the DoD Office of the Actuary's September 30, 2019, Valuation of the Military Retirement System report. Support for the prior year's payment is summarized in the September 30, 2018, valuation report.

Economic Assumptions – At A Glance (Page 1 of 2)

Other Systems Current Economic Assumptions in Nominal and Real Terms

Economic Assumption - Nominal Terms	MRF Current 2019	OPM 2020	SSA OASDI Trustee's Report 2020			MRF Financial Statements 2019	CBO Inflation and 10 Yr Treas. Note 2020	Blue Chip Consensus Inflation and 10 Yr Treas. Note 2019
			Low Cost	Intermediate	High Cost			
Reference Date	7/1/2019	4/1/2020	4/22/2020	4/22/2020	4/22/2020	3/30/2019	1/1/2020	12/1/2019
Rate Projection Period	75-100 Yrs Forward	75-100 Yrs Forward	Inf: '22 to '94 Sal: '29 to '94 Int: '29 to '94	Inf: '22 to '94 Sal: '29 to '94 Int: '29 to '94	Inf: '22 to '94 Sal: '29 to '94 Int: '29 to '94	10 Yr Look Back	2025 to 2030	2026 to 2030
Inflation	2.75%	2.40%	3.00%	2.40%	1.80%	1.80%	2.30%	2.10%
Salary	3.25%	2.65%	4.76%	3.54%	2.32%	1.80%	---	---
Interest Rate	4.75%	4.00%	5.80%	4.70%	3.60%	3.40%	3.00%	3.20%

Notes:

(1) **MRF securities are purchased at market, but valued at book.** TIPS are valued at experienced inflation rates to date.
(2) "Salary" refers to Across-The-Board Pay Increase for MRF and OPM, but Total Wage Increase for SSA.
Total Wage Increase for SSA = productivity growth + hours growth + earnings growth + CPI adjusted for substitution
(3) Inflation assumptions for MRF, OPM, and SSA are CPI-W, all other are CPI-U (including Blue Chip).
(4) Above reference dates refer to when the projection and underlying assumptions were adopted.
(5) 'MRF Financial Statements' refers to economic assumptions prescribed by SFFAS 33.
(6) SSA Note that a higher price inflation rate results in faster earnings and revenue growth immediately, while the resulting added growth in benefit levels occurs with a delay, causing an overall improvement in the actuarial balance. Similarly, a lower price inflation rate causes an overall decline in the actuarial balance.

Economic Assumptions – At A Glance (Page 2 of 2)

Economic Assumption - Real Terms	MRF Current 2019	OPM 2020	SSA OASDI Trustee's Report 2020		
			Low Cost	Intermediate	High Cost
Reference Date	**7/1/2019**	**4/1/2020**	**4/22/2020**	**4/22/2020**	**4/22/2020**
Rate Projection Period	**75-100 Yrs Forward**	**75-100 Yrs Forward**	**Inf: '22 to '94 Sal: '29 to '94 Int: '29 to '94**	**Inf: '22 to '94 Sal: '29 to '94 Int: '29 to '94**	**Inf: '22 to '94 Sal: '29 to '94 Int: '29 to '94**
Salary (Real)	0.50%	0.25%	1.76%	1.14%	0.52%
Interest Rate (Real)	2.00%	1.60%	2.80%	2.30%	1.80%

MRF Financial Statements 2019	CBO Inflation and 10 Yr Treas. Note 2020	Blue Chip Consensus Inflation and 10 Yr Treas. Note 2019
3/30/2019	**1/1/2020**	**12/1/2019**
10 Yr Look Back	**10 Yrs Forward**	**10 Yrs Forward**
0.00%	---	---
1.60%	0.70%	1.10%

Blue Chip L-T Index	Year				
	Dec 2019	**Jun 2019**	**Jun 2018**	**June 2017**	**Dec 2016**
Projection Period	**10 Yrs**	**10 Yrs**	**10 Yrs**	**10 Yrs**	**10 Yrs**
CPI	**2.10%**	**2.10%**	**2.20%**	**2.20%**	**2.30%**
30 Year Treasury	**3.70%**	**3.80%**	**4.40%**	**4.50%**	**4.50%**
Real Return	1.60%	1.70%	2.20%	2.30%	2.20%

Long-Range Survey:

The table below contains the results of our twice-annual long-range CONSENSUS survey. There are also Top 10 and Bottom 10 averages for each variable. Shown are consensus estimates for the years 2021 through 2025 and averages for the five-year periods 2021-2025 and 2026-2030. Apply these projections cautiously. Few if any economic, demographic and political forces can be evaluated accurately over such long time spans.

		Average For The Year					Five-Year Averages	
		2021	2022	2023	2024	2025	2021-2025	2026-2030
1. Federal Funds Rate	CONSENSUS	**1.5**	**1.9**	**2.1**	**2.3**	**2.4**	**2.1**	**2.4**
	Top 10 Average	2.1	2.6	2.7	2.9	3.0	2.6	3.0
	Bottom 10 Average	1.0	1.2	1.5	1.8	1.9	1.5	1.9
2. Prime Rate	CONSENSUS	**4.5**	**4.9**	**5.1**	**5.4**	**5.5**	**5.1**	**5.5**
	Top 10 Average	5.0	5.5	5.7	6.0	6.0	5.6	6.0
	Bottom 10 Average	4.0	4.3	4.6	4.9	5.0	4.5	5.0
3. LIBOR, 3-Mo.	CONSENSUS	**1.9**	**2.2**	**2.4**	**2.6**	**2.7**	**2.3**	**2.7**
	Top 10 Average	2.4	2.7	2.9	3.1	3.2	2.9	3.2
	Bottom 10 Average	1.4	1.6	1.8	2.0	2.2	1.8	2.2
4. Commercial Paper, 1-Mo.	CONSENSUS	**1.7**	**2.1**	**2.3**	**2.5**	**2.7**	**2.3**	**2.7**
	Top 10 Average	2.2	2.5	2.8	3.0	3.1	2.7	3.1
	Bottom 10 Average	1.3	1.6	1.8	2.1	2.2	1.8	2.2
5. Treasury Bill Yield, 3-Mo.	CONSENSUS	**1.5**	**1.8**	**2.0**	**2.3**	**2.4**	**2.0**	**2.4**
	Top 10 Average	2.1	2.6	2.7	2.9	3.0	2.6	**3.0**
	Bottom 10 Average	1.0	1.2	1.4	1.7	1.8	1.4	**1.8**
6. Treasury Bill Yield, 6-Mo.	CONSENSUS	**1.6**	**1.9**	**2.2**	**2.4**	**2.5**	**2.1**	**2.5**
	Top 10 Average	2.2	2.6	2.8	3.0	3.1	2.7	**3.1**
	Bottom 10 Average	1.1	1.3	1.5	1.8	2.0	1.5	**2.0**
7. Treasury Bill Yield, 1-Yr.	CONSENSUS	**1.7**	**2.0**	**2.2**	**2.5**	**2.6**	**2.2**	**2.7**
	Top 10 Average	2.3	2.7	2.9	3.2	3.2	2.8	**3.2**
	Bottom 10 Average	1.2	1.3	1.6	1.9	2.1	1.6	**2.1**
8. Treasury Note Yield, 2-Yr.	CONSENSUS	**1.8**	**2.1**	**2.4**	**2.6**	**2.7**	**2.3**	**2.8**
	Top 10 Average	2.4	2.8	3.1	3.3	3.4	3.0	**3.4**
	Bottom 10 Average	1.2	1.5	1.7	2.0	2.2	1.7	**2.2**
10. Treasury Note Yield, 5-Yr.	CONSENSUS	**2.0**	**2.3**	**2.6**	**2.8**	**2.9**	**2.5**	**3.0**
	Top 10 Average	2.6	3.0	3.2	3.5	3.5	3.2	**3.6**
	Bottom 10 Average	1.5	1.7	1.9	2.1	2.3	1.9	**2.3**
11. Treasury Note Yield, 10-Yr.	CONSENSUS	**2.3**	**2.5**	**2.8**	**3.0**	**3.1**	**2.8**	**3.2**
	Top 10 Average	2.9	3.3	3.6	3.8	3.9	3.5	**4.0**
	Bottom 10 Average	1.8	1.9	2.1	2.3	2.4	2.1	**2.5**
12. Treasury Bond Yield, 30-Yr.	CONSENSUS	**2.8**	**3.0**	**3.2**	**3.5**	**3.6**	**3.2**	**3.7**
	Top 10 Average	3.3	3.6	4.0	4.2	4.3	3.9	**4.4**
	Bottom 10 Average	2.2	2.4	2.5	2.7	2.9	2.6	**2.9**
13. Corporate Aaa Bond Yield	CONSENSUS	**3.7**	**4.0**	**4.3**	**4.5**	**4.6**	**4.2**	**4.7**
	Top 10 Average	4.3	4.6	4.9	5.2	5.3	4.9	**5.4**
	Bottom 10 Average	3.2	3.4	3.6	3.7	3.9	3.6	**4.0**
13. Corporate Baa Bond Yield	CONSENSUS	**4.7**	**4.9**	**5.2**	**5.4**	**5.6**	**5.2**	**5.6**
	Top 10 Average	5.3	5.6	5.9	6.2	6.3	5.9	**6.4**
	Bottom 10 Average	4.2	4.3	4.4	4.6	4.8	4.5	**4.8**
14. State & Local Bonds Yield	CONSENSUS	**3.6**	**3.7**	**3.9**	**4.1**	**4.2**	**3.9**	**4.2**
	Top 10 Average	4.0	4.3	4.5	4.6	4.7	4.4	**4.7**
	Bottom 10 Average	3.2	3.2	3.3	3.5	3.7	3.4	**3.8**
15. Home Mortgage Rate	CONSENSUS	**4.1**	**4.2**	**4.5**	**4.7**	**4.8**	**4.5**	**4.9**
	Top 10 Average	4.5	4.8	5.1	5.4	5.4	5.0	**5.5**
	Bottom 10 Average	3.7	3.7	3.9	4.1	4.2	3.9	**4.2**
A. Fed's AFE Nominal $ Index	CONSENSUS	**108.8**	**108.8**	**109.1**	**109.2**	**108.8**	**108.9**	**108.3**
	Top 10 Average	110.6	110.7	111.1	111.5	111.6	111.1	111.8
	Bottom 10 Average	107.0	107.0	107.1	107.1	106.5	106.9	105.7
		Year-Over-Year, % Change					Five-Year Averages	
		2021	2022	2023	2024	2025	2021-2025	2026-2030
B. Real GDP	CONSENSUS	**1.9**	**2.0**	**2.0**	**1.9**	**2.0**	**1.9**	**2.0**
	Top 10 Average	2.4	2.4	2.3	2.2	2.2	2.3	2.3
	Bottom 10 Average	1.4	1.6	1.6	1.7	1.7	1.6	1.7
C. GDP Chained Price Index	CONSENSUS	**2.2**	**2.3**	**2.3**	**2.2**	**2.2**	**2.2**	**2.2**
	Top 10 Average	2.6	2.8	2.7	2.6	2.6	2.7	2.6
	Bottom 10 Average	1.8	1.8	1.9	1.9	1.9	1.9	1.9
D. Consumer Price Index	CONSENSUS	**2.1**	**2.2**	**2.2**	**2.2**	**2.1**	**2.2**	**2.1**
	Top 10 Average	2.4	2.4	2.5	2.4	2.3	2.4	2.3
	Bottom 10 Average	1.8	1.9	2.0	2.0	1.9	1.9	2.0

MRF Fund Yield Projection
BASED ON SSA (INTERMEDIATE) ASSUMPTIONS

FY	Inflation	Real Fund Yield*	Nominal Fund Yield	New Invests** (Cumulative)	New Invests (Annual)
2020	0.98%	1.28%	2.25%	2.04%	2.04%
2021	2.35%	0.66%	3.01%	2.37%	2.59%
2022	2.42%	0.83%	3.25%	2.59%	3.01%
2023	2.40%	0.91%	3.31%	2.83%	3.49%
2024	2.40%	1.00%	3.40%	3.05%	3.86%
2025	2.40%	1.04%	3.44%	3.25%	4.11%
2026	2.40%	1.16%	3.56%	3.49%	4.32%
2027	2.40%	1.19%	3.59%	3.55%	4.42%
2028	2.40%	1.27%	3.67%	3.60%	4.46%
2029	2.40%	1.28%	3.68%	3.68%	4.58%
2030	2.40%	1.30%	3.70%	3.74%	4.57%
2031	2.40%	1.32%	3.72%	3.77%	4.46%
2032	2.40%	1.43%	3.83%	3.79%	4.49%
2033	2.40%	1.36%	3.76%	3.91%	4.65%
2034	2.40%	1.39%	3.79%	3.95%	4.56%
2035	2.40%	1.43%	3.83%	3.98%	4.56%
2036	2.40%	1.45%	3.85%	4.01%	4.54%
2037	2.40%	1.49%	3.89%	4.03%	4.54%
2038	2.40%	1.51%	3.91%	4.06%	4.55%
2039	2.40%	1.54%	3.94%	4.08%	4.54%
2040	2.40%	1.66%	4.06%	4.24%	4.64%
2041	2.40%	1.80%	4.20%	4.40%	4.66%
2042	2.40%	1.92%	4.32%	4.51%	4.65%
2043	2.40%	2.02%	4.42%	4.58%	4.65%
2044	2.40%	2.08%	4.48%	4.63%	4.65%
2045	2.40%	2.13%	4.53%	4.66%	4.65%
2046	2.40%	2.18%	4.58%	4.69%	4.66%
2047	2.40%	2.20%	4.60%	4.69%	4.63%
2048	2.40%	2.23%	4.63%	4.69%	4.63%
2049	2.40%	2.30%	4.70%	4.70%	4.64%
2050	2.40%	2.30%	4.70%	4.70%	4.61%
2051	2.40%	2.30%	4.70%	4.70%	4.58%
2052	2.40%	2.30%	4.70%	4.70%	4.59%
2053	2.40%	2.30%	4.70%	4.70%	4.65%
2054	2.40%	2.30%	4.70%	4.70%	4.61%
2055	2.40%	2.30%	4.70%	4.70%	4.61%
2056	2.40%	2.30%	4.70%	4.70%	4.61%
2057	2.40%	2.30%	4.70%	4.70%	4.61%
2058	2.40%	2.30%	4.70%	4.70%	4.61%
2059	2.40%	2.30%	4.70%	4.70%	4.61%
2060	2.40%	2.30%	4.70%	4.70%	4.64%
2061	2.40%	2.30%	4.70%	4.70%	4.65%
2062	2.40%	2.30%	4.70%	4.70%	4.65%
2063+	2.40%	2.30%	4.70%	4.70%	4.65%

	Inflation	Real Fund Yield*	Nominal Fund Yield	New Invests** (Cumulative)	New Invests (Annual)
10 Yr Avg	2.25%	1.06%	3.32%	3.04%	3.68%
20 Yr Avg	2.33%	1.24%	3.57%	3.49%	4.11%
30 Yr Avg	2.35%	1.51%	3.86%	3.85%	4.29%
50 Yr Avg	2.37%	1.82%	4.19%	4.19%	4.42%
75 Yr Avg	2.38%	1.98%	4.36%	4.36%	4.50%
10 Yr Fund Wgt Avg	2.31%	1.09%	3.40%	3.17%	3.88%
20 Yr Fund Wgt Avg	2.36%	1.29%	3.66%	3.63%	4.28%
30 Yr Fund Wgt Avg	2.38%	1.64%	4.02%	4.06%	4.44%
50 Yr Fund Wgt Avg	2.39%	2.02%	4.41%	4.43%	4.55%
75 Yr Fund Wgt Avg	2.40%	2.19%	4.58%	4.59%	4.61%
Ultimate	2.40%	2.30%	4.70%	4.70%	4.64%

BoA Assumptions		
2.75%	2.00%	4.75%

Liab Mod Dur	NC FT BRS Mod Dur	NC PT BRS Mod Dur	NC FT Delta*** If Infl -0.25%	NC PT Delta*** If Infl -0.25%
20	30	40	+0.1%	+0.1%

MRF Fund Yield Notes

* Real = Fund Yield - Inflation (after 3 mths TIPS inflation lag). For inflation, fund yield, and NEW INVESTMENT return calculations, the "X Yr Avg" calculation is geometric and the "X Yr Fund Wgt Avg" is weighted by expected fund size during FY.
** Assumes an amount equal to 5% of expected annual benefit payments is invested in overnights and new bond purchases are invested in 20 yr bonds. ASSUMES OVERNIGHT RETURNS SAME AS LONG BONDS (new bond purchases are invested in 20-yr bonds with yields equal to SSA's new-purchase yield assumptions from the 2020 Trustees Report)
***There is a +0.1 percent change to both the FY 2022 DoD Full-time (FT) and Part-time (PT) NCP, if the long-term interest rate, across-the-board salary, and COLA assumptions are each lowered by 25 basis points. These changes in the economic assumptions result in an estimated $75 million increase (or 0.3%) in the DoD's contribution to the Military Retirement Fund (MRF) in FY 2022. For reference purposes, the current interest/salary/COLA assumptions are 4.75%/3.25%/2.75%, and the alternative above is 4.5%/3.00%/2.50%.
--- Long term fund yield converges to 4.7%
--- Short Term Strategy: Mix of overnights and bills.
--- Portfolio Allocation: 75-90% in TIPS and 10-25% in conventional notes and bonds (except, for example, high premiums, TIPS not offered, expected decreases in future inflation, etc.)
--- Investment Policy: The Fund is required to be invested in market based Treasury special issues, and the interest assumption reflects this constraint. Current strategy includes investing the funds to coincide with the cash flow of the func (to pay benefits and expenses when due) and holding securities to maturity, unless a cash flow requirement to pay benefits occurs. Many considerations are taken into account when making the investment decisions, including balancing various risks, targeting an expected average maturity of future investments of 20 years, and current and projected economic conditions.

MRF Fund Yield Projection
BASED ON BLUE CHIP ASSUMPTIONS

FY	Inflation	Real Fund Yield*	Nominal Fund Yield	New Invests** (Cumulative)	New Invests (Annual)
2020	0.93%	1.32%	2.25%	2.06%	2.06%
2021	2.03%	0.83%	2.85%	2.28%	2.43%
2022	2.15%	0.91%	3.06%	2.45%	2.77%
2023	2.20%	0.92%	3.12%	2.61%	3.04%
2024	2.20%	0.98%	3.18%	2.77%	3.30%
2025	2.10%	1.06%	3.16%	2.90%	3.45%
2026	2.10%	1.10%	3.20%	3.04%	3.56%
2027	2.10%	1.11%	3.21%	3.07%	3.53%
2028	2.10%	1.17%	3.27%	3.10%	3.52%
2029	2.10%	1.14%	3.24%	3.14%	3.55%
2030	2.10%	1.13%	3.23%	3.16%	3.53%
2031	2.10%	1.14%	3.24%	3.18%	3.48%
2032	2.10%	1.23%	3.33%	3.19%	3.49%
2033	2.10%	1.10%	3.20%	3.24%	3.57%
2034	2.10%	1.11%	3.21%	3.26%	3.53%
2035	2.10%	1.13%	3.23%	3.27%	3.53%
2036	2.10%	1.14%	3.24%	3.28%	3.52%
2037	2.10%	1.16%	3.26%	3.30%	3.52%
2038	2.10%	1.17%	3.27%	3.31%	3.52%
2039	2.10%	1.18%	3.28%	3.32%	3.52%
2040	2.10%	1.24%	3.34%	3.41%	3.57%
2041	2.10%	1.31%	3.41%	3.49%	3.58%
2042	2.10%	1.35%	3.45%	3.54%	3.57%
2043	2.10%	1.40%	3.50%	3.57%	3.57%
2044	2.10%	1.42%	3.52%	3.59%	3.57%
2045	2.10%	1.43%	3.53%	3.60%	3.57%
2046	2.10%	1.45%	3.55%	3.60%	3.58%
2047	2.10%	1.45%	3.55%	3.60%	3.56%
2048	2.10%	1.45%	3.55%	3.60%	3.56%
2049	2.10%	1.50%	3.60%	3.60%	3.57%
2050	2.10%	1.50%	3.60%	3.60%	3.55%
2051	2.10%	1.50%	3.60%	3.60%	3.54%
2052	2.10%	1.50%	3.60%	3.60%	3.54%
2053	2.10%	1.50%	3.60%	3.60%	3.57%
2054	2.10%	1.50%	3.60%	3.60%	3.55%
2055	2.10%	1.50%	3.60%	3.60%	3.55%
2056	2.10%	1.50%	3.60%	3.60%	3.55%
2057	2.10%	1.50%	3.60%	3.60%	3.55%
2058	2.10%	1.50%	3.60%	3.60%	3.55%
2059	2.10%	1.50%	3.60%	3.60%	3.55%
2060	2.10%	1.50%	3.60%	3.60%	3.57%
2061	2.10%	1.50%	3.60%	3.60%	3.58%
2062	2.10%	1.50%	3.60%	3.60%	3.57%
2063+	2.10%	1.50%	3.60%	3.60%	3.57%

	Inflation	Real Fund Yield*	Nominal Fund Yield	New Invests** (Cumulative)	New Invests (Annual)
10 Yr Avg	2.00%	1.05%	3.05%	2.74%	3.12%
20 Yr Avg	2.05%	1.10%	3.15%	3.00%	3.32%
30 Yr Avg	2.07%	1.20%	3.27%	3.18%	3.40%
50 Yr Avg	2.08%	1.32%	3.40%	3.35%	3.47%
75 Yr Avg	2.09%	1.38%	3.47%	3.43%	3.50%
10 Yr Fund Wgt Avg	2.04%	1.06%	3.11%	2.83%	3.23%
20 Yr Fund Wgt Avg	2.08%	1.12%	3.19%	3.08%	3.41%
30 Yr Fund Wgt Avg	2.09%	1.24%	3.33%	3.30%	3.48%
50 Yr Fund Wgt Avg	2.09%	1.39%	3.49%	3.47%	3.53%
75 Yr Fund Wgt Avg	2.10%	1.46%	3.55%	3.55%	3.55%
Ultimate	2.10%	1.50%	3.60%	3.60%	3.57%

BoA Assumptions		
2.75%	2.00%	4.75%

Liab Mod Dur	NC FT BRS Mod Dur	NC PT BRS Mod Dur
20	30	40

NC FT Delta*** If Infl -0.25%	NC PT Delta*** If Infl -0.25%
+0.1%	+0.1%

MRF Fund Yield Notes

* Real = Fund Yield - Inflation (after 3 mths TIPS inflation lag). For inflation, fund yield, and NEW INVESTMENT return calculations, the "X Yr Avg" calculation is geometric and the "X Yr Fund Wgt Avg" is weighted by expected fund size during FY.

** Assumes an amount equal to 5% of expected annual benefit payments is invested in overnights and new bond purchases are invested in 20 yr bonds. ASSUMES OVERNIGHT RETURNS SAME AS LONG BONDS (new bond purchases are invested in 20-yr bonds with yields equal to SSA's new-purchase yield assumptions from the 2020 Trustees Report)

***There is a +0.1 percent change to both the FY 2022 DoD Full-time (FT) and Part-time (PT) NCP, if the long-term interest rate, across-the-board salary, and COLA assumptions are each lowered by 25 basis points. These changes in the economic assumptions result in an estimated $75 million increase (or 0.3%) in the DoD's contribution to the Military Retirement Fund (MRF) in FY 2022. For reference purposes, the current interest/salary/COLA assumptions are 4.75%/3.25%/2.75%, and the alternative above is 4.5%/3.00%/2.50%.

--- Long term fund yield converges to 3.6%

--- Short Term Strategy: Mix of overnights and bills.

--- Portfolio Allocation: 75-90% in TIPS and 10-25% in conventional notes and bonds (except, for example, high premiums, TIPS not offered, expected decreases in future inflation, etc.)

--- Investment Policy: The Fund is required to be invested in market based Treasury special issues, and the interest assumption reflects this constraint. Current strategy includes investing the funds to coincide with the cash flow of the fund (to pay benefits and expenses when due) and holding securities to maturity, unless a cash flow requirement to pay benefits occurs. Many considerations are taken into account when making the investment decisions, including balancing various risks, targeting an expected average maturity of future investments of 20 years, and current and projected economic conditions.

PROPOSED NON-ECONOMIC CHANGES FOR
9/30/2020 MRF VALUATION AND
FY 2022 MRF NORMAL COST PERCENTAGES (NCPs)

FY 2022 NCP SUMMARY

Below is a summary of the proposed changes and their impact on the FY 2022 Full- and Part-time NCPs.

	Full-time	**Part-time**
FY 2021 Budgeted DoD NCPs (Prior assumptions) *	34.9%	26.9%
FY 2022 DoD NCPs from 9/30/2019 Valuation (Prior assumptions) *	34.4%	26.6%
FY 2022 DoD NCPs from 9/30/2020 Valuation (Prior assumptions) **	34.4%	26.6%
i. Proposed Disabled Decrement Rates	0.2%	0.9%
ii. Proposed Mortality Improvement Scales	0.0%	-0.1%
iii. Proposed Disability VA Offset Parameters	-1.0%	-1.2%
iv. Proposed Reserve Rates/Factors	-0.1%	-1.6%
FY 2022 DoD NCP from 9/30/2020 Valuation	**33.5%**	**24.6%**
v. Lower Economic Assumptions***	1.6%	1.1%
FY 2022 DoD NCP, 9/30/2020 Valuation ****	**35.1%**	**25.7%**

* The FY 2021 and 2022 NCPs reflect benefit changes included in the NDAA 2020, and differ from the FY 2021 NCPs[1] promulgated in 2019.

** Reflects an additional year of mortality improvement in the NCPs (in advancing the valuation year from 2019 to 2020). There is no change to the 3rd decimal place.

*** Interest: 4.25%; Salary: 2.75%; COLA: 2.5%. These assumptions would lead to an increase of $68B (or 4%) in the 9/30/2019 accrued liability. The total NCP for FY 2022 based on lower economic assumptions is 51.6% for full-time and 30.1% for part-time. Therefore, the estimated FY 2022 Treasury NCP is 16.5% for full-time and 4.4% for part-time.

**** The total NCP (DoD + Treasury) for FY 2022 based on the above proposed changes is 48.8% for full-time and 28.7% for part-time. Therefore, the estimated FY 2022 Treasury NCP is 15.4% for full-time and 4.1% for part-time.

[1] Last year, the Board promulgated FY 2021 NCPs of 34.6% for full-time and 26.7% for part-time. The full- and part-time NCPs are higher by 0.3% and 0.2%, respectively, due to NDAA 20. The Board will issue a new letter restating the FY 2021 NCPs of 34.9% and 26.9% based on these changes.

PROPOSED DISABLED DECREMENT RATES

SUMMARY IMPACT: This proposal results in: a 0.2% increase to the FY 2022 full-time DoD NCP, a 0.9% increase in the part-time NCP, and would lead to an increase in the 9/30/2019 accrued liability of $2.2 billion (or 0.1%).

PROPOSAL: The update is based on rescaling the underlying experience period to FYs 2015-2019[2]. Comparing FY 2019 projections using current[3] and proposed rates, total ("paid" plus "unpaid") new disabled retirements increase by 53% (from 10,324 to 15,825).

New Total Disabled from Active (AC) and Reserves (RC)			
FY	AC	RC	Total
2010	6,975	1,730	8,705
2011	7,799	1,672	9,471
2012	9,773	1,970	11,743
2013	16,214	3,099	19,313
2014	14,672	4,078	18,750
2015	15,880	3,694	19,574
2016	14,786	2,133	16,919
2017	13,615	1,170	14,785
2018	15,751	2,317	18,068
2019	12,085	2,016	14,101

RATIONALE: New total disabled retirements from our valuation model produce an actual-to-expected (A/E) ratio of 140%. According to monthly performance reports produced by the DoD Disability Evaluation Policy Office of the Assistant Secretary of Defense for Health Affairs, the proportion of Service members retired for disability has steadily increased over the years from 21% in FY 2004 to 64% in FY 2013 to 67% in FY 2020[4]. Several factors contribute to this increase, including the joint DoD/VA implementation of the Integrated Disability Evaluation System (IDES). Piloted in 2007 and implemented worldwide in 2011, it is intended to expedite benefits for ill or injured Service members. Also, there was a legislated change requiring that DoD apply the Veterans Rating for Disabilities without modification, which led to the recognition of a dramatic increase in traumatic-stress-related illnesses among Service members. This proposal is an expedient measure[5] until we conduct an experience study of all active and

[2] In 2015 the Board approved a similar rescaling, resulting in an increase of total disabled retirements of 65% (from 6,425 to 10,579).

[3] Current disability rates contain a similar adjustment using FY 2010-2014 data along with one half of estimated combat-related disability retirements removed. No similar removal adjustment is included in the proposal this time. Note also that the additional disability retirements were removed from separations, thereby affecting separation rates and reducing the impact on the percentage making 20 year retirement.

[4] According to the May 2020 report, "impacts to case processing metrics due to COVID-19 pandemic are expected in future months. As of 5/31/20, the most impacted metric was the number of cases in deferment (increasing from 743 cases in February to 4,863 in May, with the majority of deferments occurring in the VA Medical Evaluation Stage".

[5] This proposal has been of particular interest to the Medicare-Eligible Retiree Health Care Board of Actuaries.

reserve decrement rates. At that time we will then revisit the disabled retirement decrement rates.

Current and proposed rates and graphs are shown in Attachment 1.

PROPOSED MORTALITY IMPROVEMENT SCALES

SUMMARY IMPACT: This proposal results in: a 0.0% change to the full-time DoD NCP, a -0.1% change to the part-time DoD NCP, and would lead to a decrease in the accrued liability of $3.7B (or 0.2%).

PROPOSAL: Mortality improvement (MI) factors project increasing life expectancies. The MI factors currently used in our valuation are based on FY00-16 military data that use methods of smoothing and projection and assumptions underlying the Society of Actuaries' (SOA) recent mortality improvement scales ("MP-2019"). **We propose updating the current mortality improvement ("Mil MI") scales to include FY00-19 military data with modifications to the SOA's methodology as outlined below.** The proposed Mil MI is used for retirees, survivors, and spouses of retirees[6].

RATIONALE: When the current Mil MI factors were approved/implemented two years ago, we planned to revisit the scales in the future. The proposed approach uses a more repeatable and transparent graduation technique, adds three additional years of relevant data, and moves the 20 year convergence period out 3 years 2037 from 2034. Current and proposed heat maps graphs are shown in Attachment 2.

MI METHODS/ASSUMPTIONS COMPARISON:

Model Component	SOA MP 2019	DoD Current	DoD Proposed
Underlying Mortality Data	**SSA-published through 2017**	**DoD data 2000 through 2016**	**DoD data 2000 through 2019[7]**
Graduation Technique	2D Whittaker Henderson; Order 3		2D P-spline model; deaths assumed to be Poisson distributed.
Smoothing Parameters	100 in the calendar year direction; 400 in the age direction		
Edge Effect Step-back	2 Years		

[6] The SOA's MP-2016 mortality improvement scales (with adjustment to reflect 90%/10% male/female military population mix) are proposed to project mortality rates for active duty and reserves (part-time selected and grey) military members. The effect of this update is not material.
[7] OACT proposes six separate improvement scales based on military data: by nondisabled active duty/reserves officer/enlisted (4), disabled (1), and survivor (1). The survivor data covers the period from FYs 2001-2019. The survivor improvement scales are also proposed to improve death rates of spouses of living retirees.

Interpolating from current MI to Ult MI	Cubic Polynomials: @ beginning - match value and slope (constrained to initial slope constraint immediately below), @ end – match ultimate MI and slope 0. [8]
Initial Slope Constraint	**0**
Long Term MI	Flat 1.0% rate to age 85; decreasing linearly to 0.85% at age 95; then decreasing linearly to 0.0% at age 115.
Convergence Period – Horizontal (Age)	**10 Years**
Convergence Period – Diagonal (Cohort)	20 Years[9]

Average age at death for an individual aged 65:

Population	Current	Proposed	Diff
Non-disabled officer from AC	87.8	87.6	-0.2
Non-disabled enlisted from AC	84.1	84.1	0.0
Non-disabled officer from RC	87.7	88.0	0.3
Non-disabled enlisted from RC	85.4	85.6	0.2
Disabled officer[10]	84.4	84.2	-0.2
Disabled enlisted	81.8	81.6	-0.2
Spouse of living retiree[11]	86.6	86.2	-0.4
Survivor	89.9	89.5	-0.4

In light of the recent global pandemic, we calculated the sensitivity of the valuation to lowering the long term rate of mortality improvement by 0.25% to 0.75% (from 1.00% used currently). (The 0.75% rate is in line with the intermediate long term rate of mortality improvement of 0.77% used by the Social Security Office of the Actuary in their 2019 Trustees' Report.) Decreasing the long term rate to 0.75% lowers the FY 2022 full- and part-

[8] Starting MI values for young ages without credible data are set equal to the MI for the youngest credible age. Starting MI values for old ages without credible data graded to 0 at age 115, analogous to the assumed Long Term MI.

[9] DoD Proposed improvement scales converge to an ultimate level in 2037 (first projection year is 2018).

[10] Combined disabled retiree mortality improvement experience is used to improve enlisted and officer permanent disability death rates. Temporary disability retiree death rates are not improved.

[11] Life expectancies are given for spouses of living retirees (SLRs) who elect Survivor Benefit Plan coverage. Mortality experience for SLRs is problematic since a reliable data source is not readily available; therefore, use of a standard table is required. SOA's "RPH-2014 death rates for healthy females for ages 50 and over—headcount-weighted rates centered in 2006, are "proposed" to replace the currently-used GAM94F (as part of this year's proposed survivor rates). The rates are proposed to be improved using scales based on military survivor data.

time DoD NCP by 0.4% each, and decreases the 9/30/2019 accrued liability by $11.9B (or -0.7%).

In a recent Retirement Plan Coverage in America Academy webinar, a presenter responded to a question on the effect of COVID-19 on U.S. mortality that she expected the effect on base mortality and mortality improvement to be reflected gradually over time. Also, there may be offsetting effects of lower deaths due to fewer automobile accidents (near term), and a cleaner environment (long term). Regarding near term COVID-19 effects, Yale researchers working with Washington Post reporters found that the US experienced 15,400 "excess deaths" in the US from March to April 4 compared with last year suggesting coronavirus death toll is higher than estimated.

PROPOSED DISABILITY VA OFFSET PARAMETERS

SUMMARY IMPACT: This proposal results in: a 1.0% decrease to the FY 2022 full-time DoD NCP, a 1.2% decrease in the part-time NCP, and would lead to a decrease in the 9/30/2019 accrued liability of $7.9 billion (or 0.5%).

PROPOSAL: We propose an update in the data used to produce disabled retiree VA offset parameters from FYs 2008-2009 to FYs 2018-2019. Our valuation model has factors which offset (or reduce) DoD military retired pay for *new* retirees, primarily due to receipt of VA disability compensation. The factors consist of full and partial VA waivers, among other subcategories, and are displayed in Attachment 3[12].

Percentage of New Disabled Retirees who are Fully Offset		
FY	**Active Duty**	**Reserves**
2010	28%	16%
2011	30%	17%
2012	42%	20%
2013	46%	22%
2014	51%	27%
2015	61%	37%
2016	62%	41%
2017	64%	39%
2018	65%	43%
2019	66%	46%

RATIONALE: The number of new paid disabled retirees from our valuation model produce an A/E ratio of 67%. Along with the increase in new total disabled retirements leading to the proposal to ramp up the disability rates, there has been an increase in disability retirees getting VA disability

[12] The DoD NCP is calculated without regard to 'concurrent receipt' provisions in NDAA 2004. To accommodate this effect, the retiree offset factors and certain other assumptions in our valuation model vary depending on whether the calculation is for: (1) the DoD NCP, or (2) the total NCP and the actuarial accrued liability. The Treasury NCP, which pays for the cost of concurrent receipt, is the difference between the total NCP and the DoD NCP.

ratings/award amounts, which we have no reason to think will not continue. VA awards are offset from most DoD disabled retired pay due to their not being eligible for Concurrent Receipt (members need at least 20 years and VA ratings of 50% or higher and most disabled retirees do not satisfy the years of service requirement).

PROPOSED RESERVE RATES/FACTORS

SUMMARY IMPACT: This proposal results in a -0.1% decrease in the FY 2022 full-time DoD NCP, and a -1.6% decrease in the part-time, and would lead to a decrease in the 9/30/2019 accrued liability of $11.0 billion (or 0.7%).

PROPOSAL: We propose an update to the following parameters/assumptions in the modeling of reserves: 1) grey area loss rates and blow-up factors; 2) reserve retirement rates; and 3) average points per year.

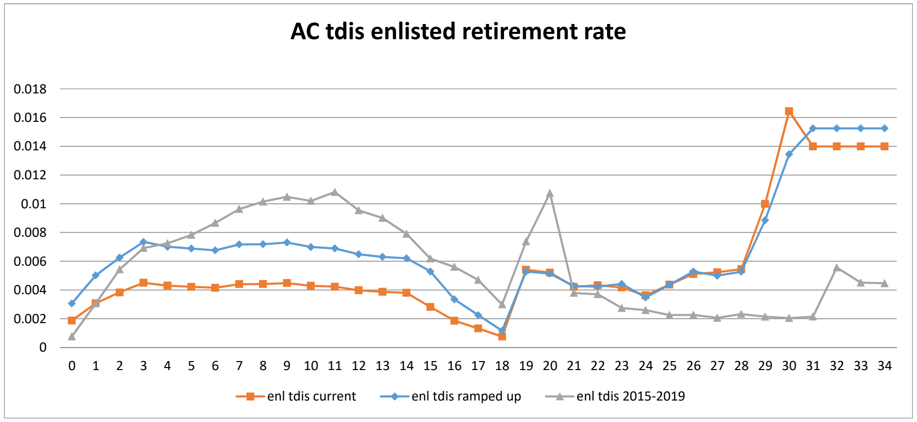
1) Grey area loss rates and blow-up factors: the proposed rates/factors do not change the FY 2022 full-time DoD NCPs (to the 3rd decimal place), and decrease the part-time NCP by 0.2%, and would lead to a decrease in the 9/30/2019 accrued liability of $3.2 billion (or 0.2%). Grey area retirees are reservists who attain 20 good years (years in which they get at least 50 points), and no longer perform drills. Losses from the grey area occur for several reasons: 1) separate from the reserves to no longer be subject to recall; 2) transfer to drilling status; 3) timing (drop from reserve file faster than they are picked up on the retired pay file). Blow-up factors are ratios of newly retiring reservists in year X not matching the reserve file in either year X-1 or X-2, to known grey area retirees (who retire during the year) at the beginning of the year. (Reservists who retire directly from reserve status are excluded from the numerator). The rates and factors work together in that losses are often followed by blow-ups. The current rates/factors use FYs 2005-2009 data, and we propose updating them to more recent experience (FYs 2017-2019 for grey area loss rates and FYs 2018-2019 for blow-up factors). The proposed grey area loss rates lower the A/E from 108% to 99% and the proposed blow-up factors raise the A/E from 60% to 100%. The current and proposed rates and blow-up factors (along with their development) are displayed in Attachment 4.

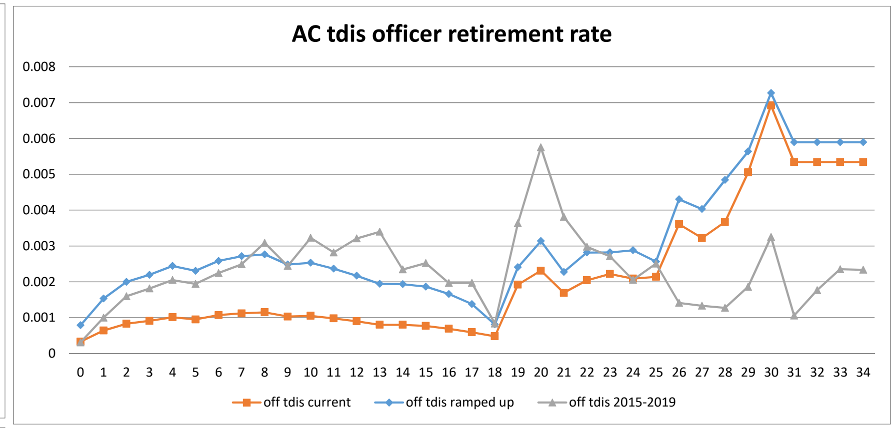
2) Nondisabled reserve retirement rates: the proposed rates lower the FY 2022 full-time DoD NCP by 0.2%, decrease the part-time NCP by 1.6%, and would lead to a decrease in the 9/30/2019 accrued liability of $4.6B (or 0.3%). The current rates include an assumption reflecting the number of years, on average, reservists retire early due to NDAA 2008 (service performed under certain activations after 1/29/2008 qualify them for this). The typical age of retirement for a reservist is age 60. Currently, an average reduction of two years (age 58) is assumed for normal cost purposes, and for closed/open group projections a transition to age 58 is assumed, going to 59 in 2024 and 58 in 2033. This was based on discussions with the Board's reserve advisor and other key reserve component stakeholders. Additionally, this approach implicitly assumed that all members who were eligible to retire under the "Early Reserve Retirement" provisions would do so. Qualitatively, usage has not shown to be as high because members may be valuing

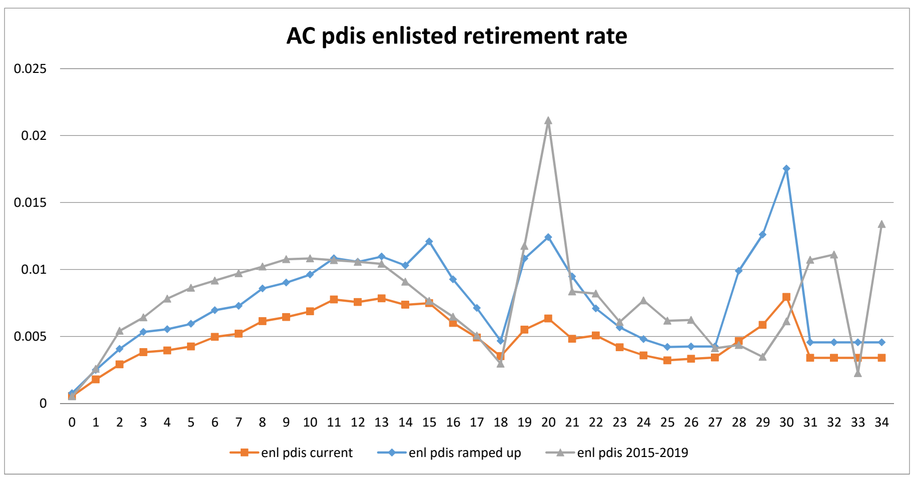
other aspects of reserve unit participation more highly. Also, grey area retirees stand to lose pay increases over COLA by retiring early. Further, members may not have access to all their records indicating the exact date of their retired pay eligibility. The proposal is to use actual data for retirement rates by age instead of the current approach of using averages which rely on shifting the rates for ages 59-63+ back 1 or 2 years. The proposed retirement rates are based on recent data (FYs 2017-2019) for part-time selected and grey area reservists. This revised modeling structure allows for more flexibility to capture the changing environment of the reserve component. The current and proposed reserve retirement rates (along with their development) are displayed in Attachment 5.

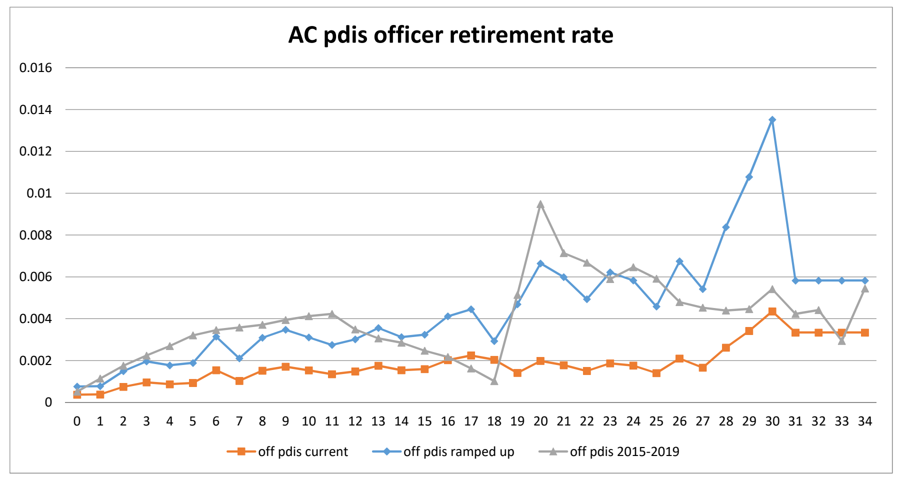
3) Points per year: the proposal does not change the FY 2022 full-time DoD NCP and raises the part-time DoD NCP by 0.3%, and would lead to a decrease in the 9/30/2019 accrued liability of $3.3B (or -0.2%). The average points per year for FYs 2017-2019 are 97 for enlisted (compared to 99 based on current assumption), and 111 for officers (compared to 102 based on current assumption). See Attachment 6 for the current and proposed points per year assumption.

Attachment 1









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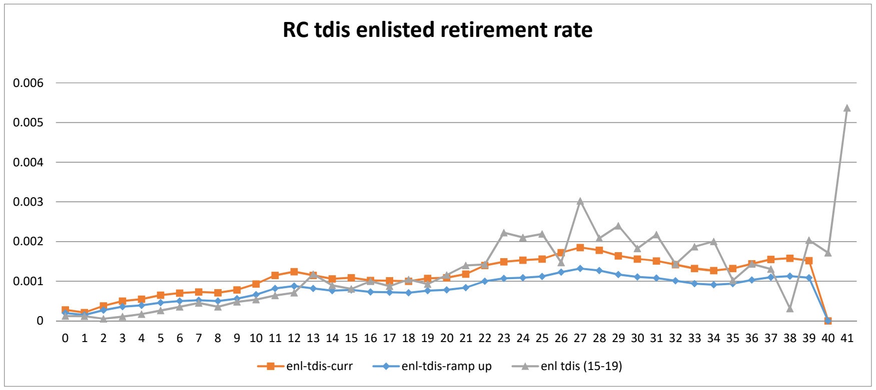
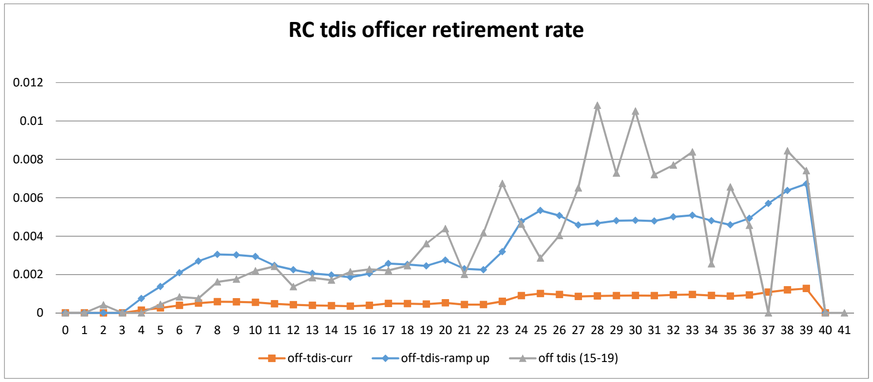
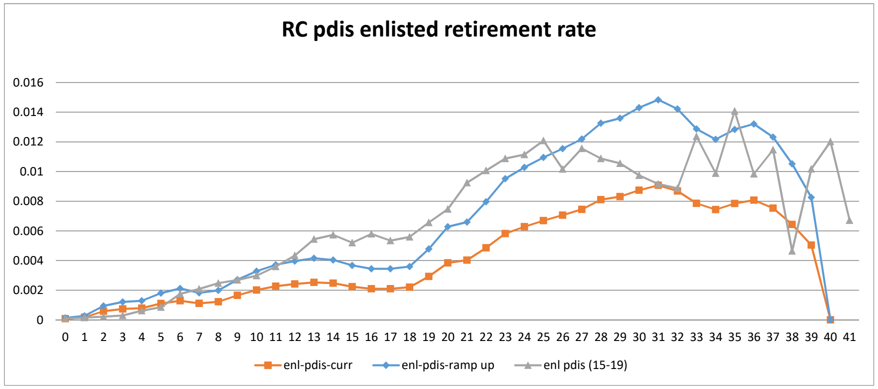
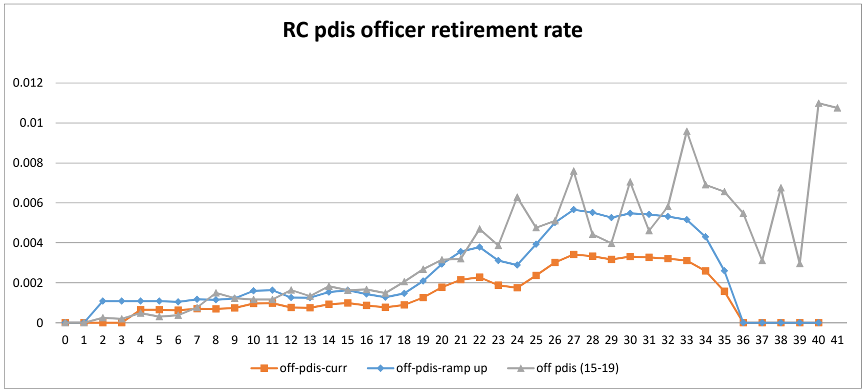


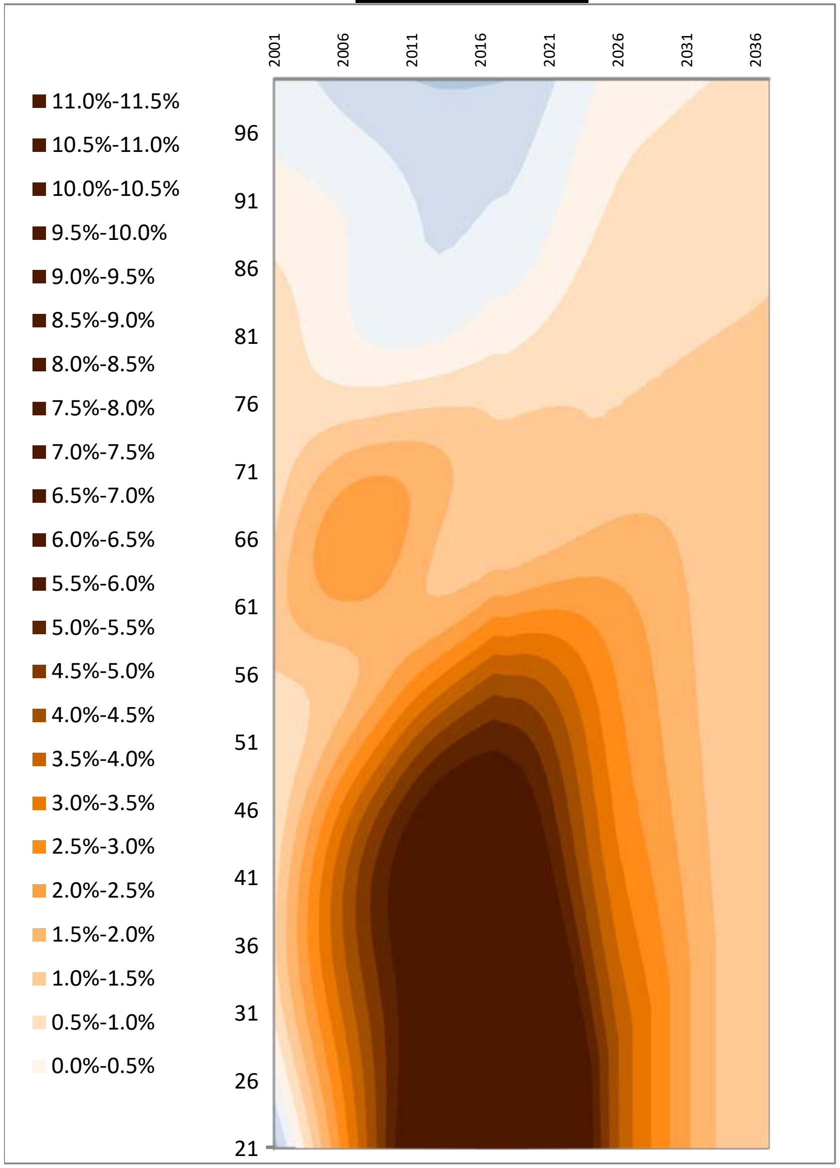




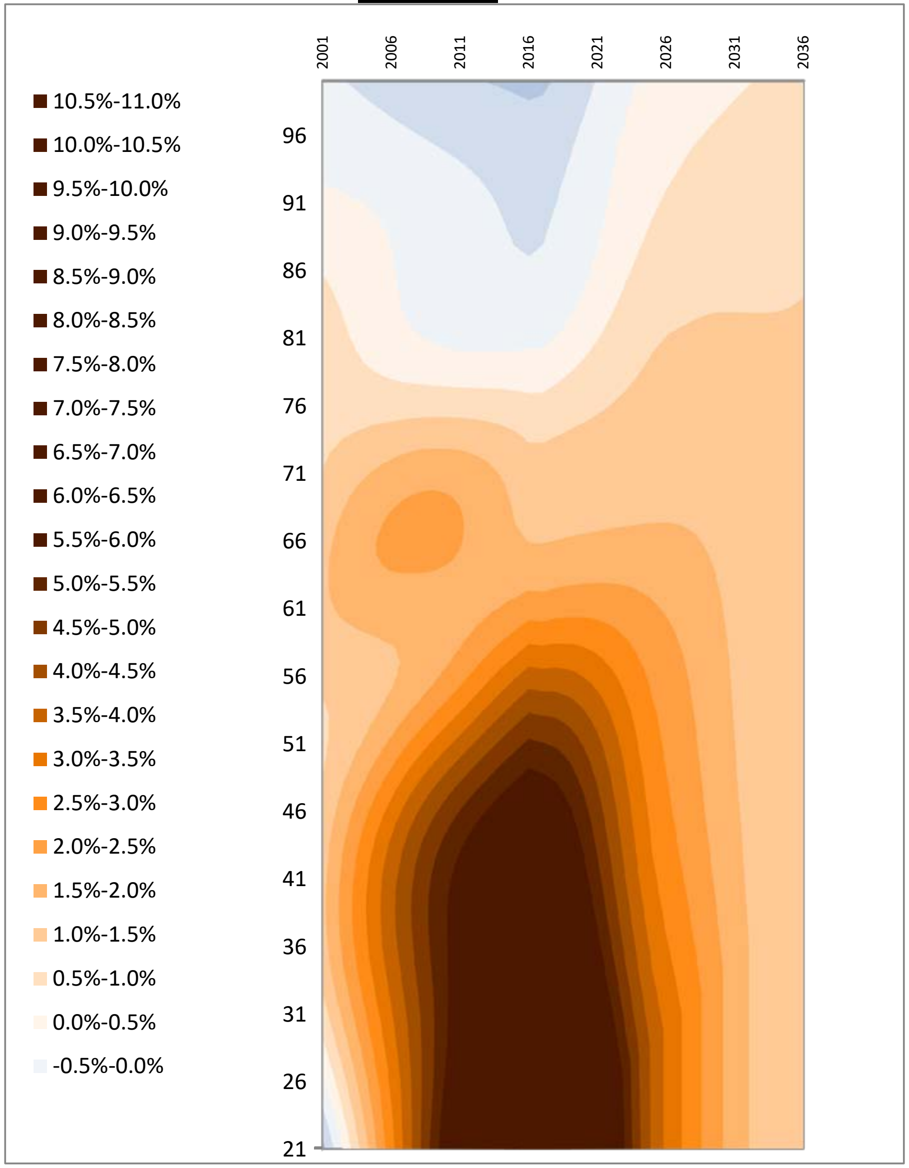


Attachment 2: DoD Mortality Improvement Heat Map - Disableds

Proposed MI

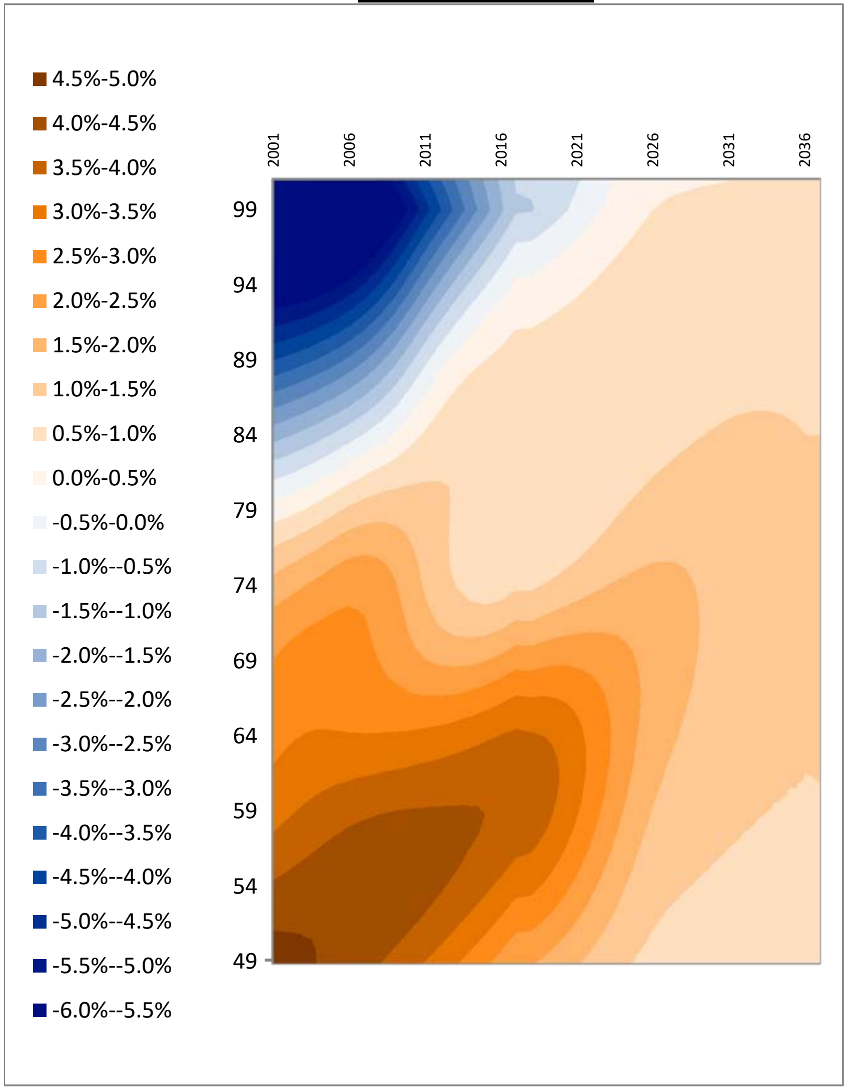


2018 MI

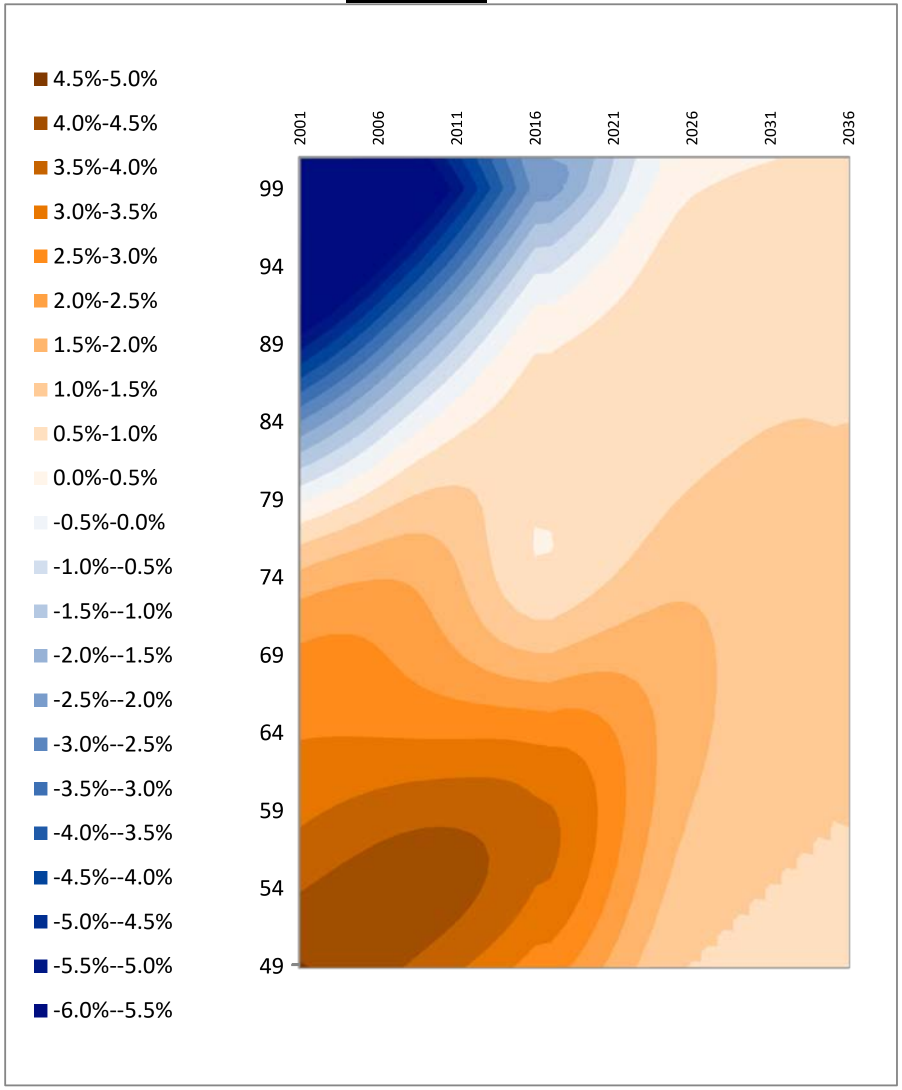


Attachment 2: DoD Mortality Improvement Heat Map - Retired Active Enlisted

Proposed MI

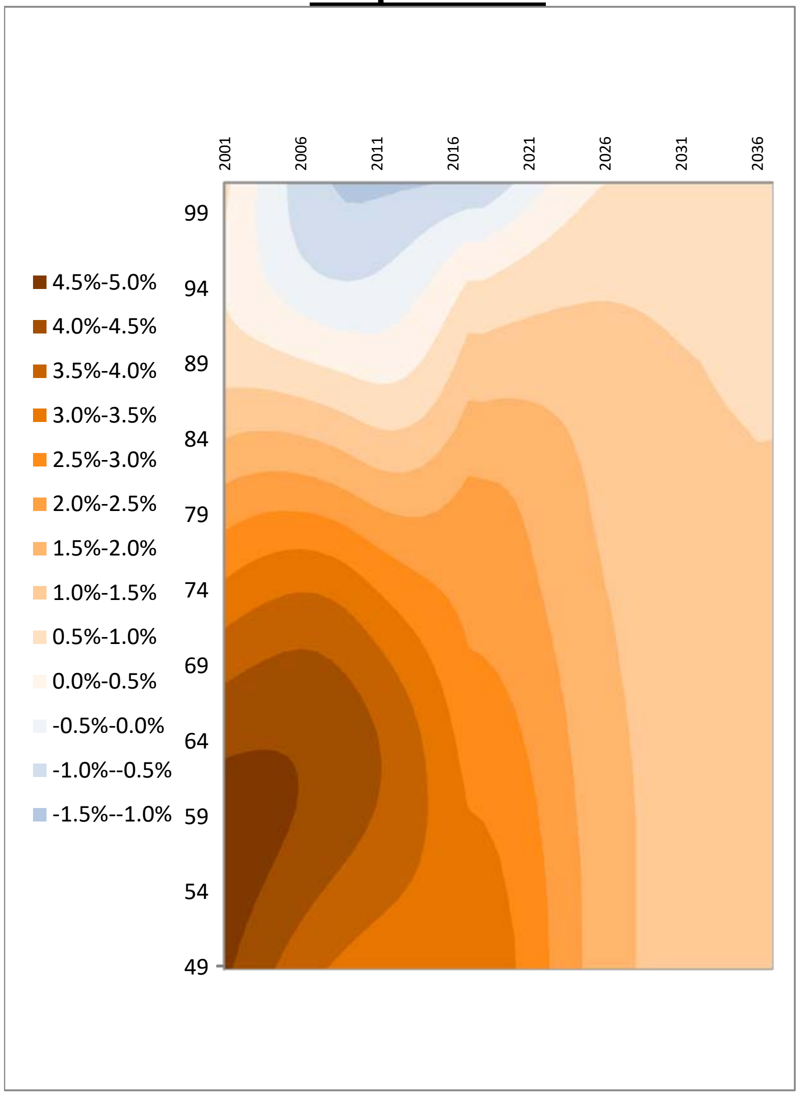


2018 MI

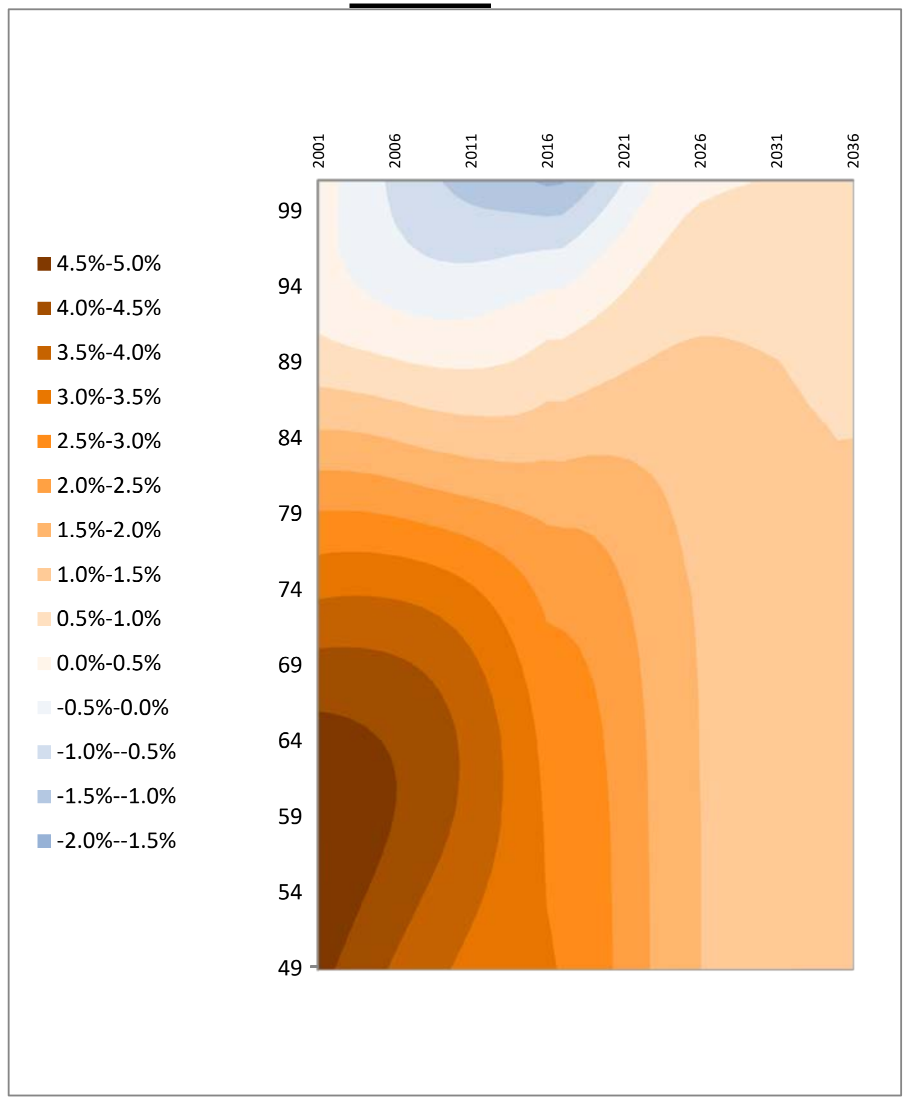


Attachment 2: DoD Mortality Improvement Heat Map - Retired Active Officer

Proposed MI

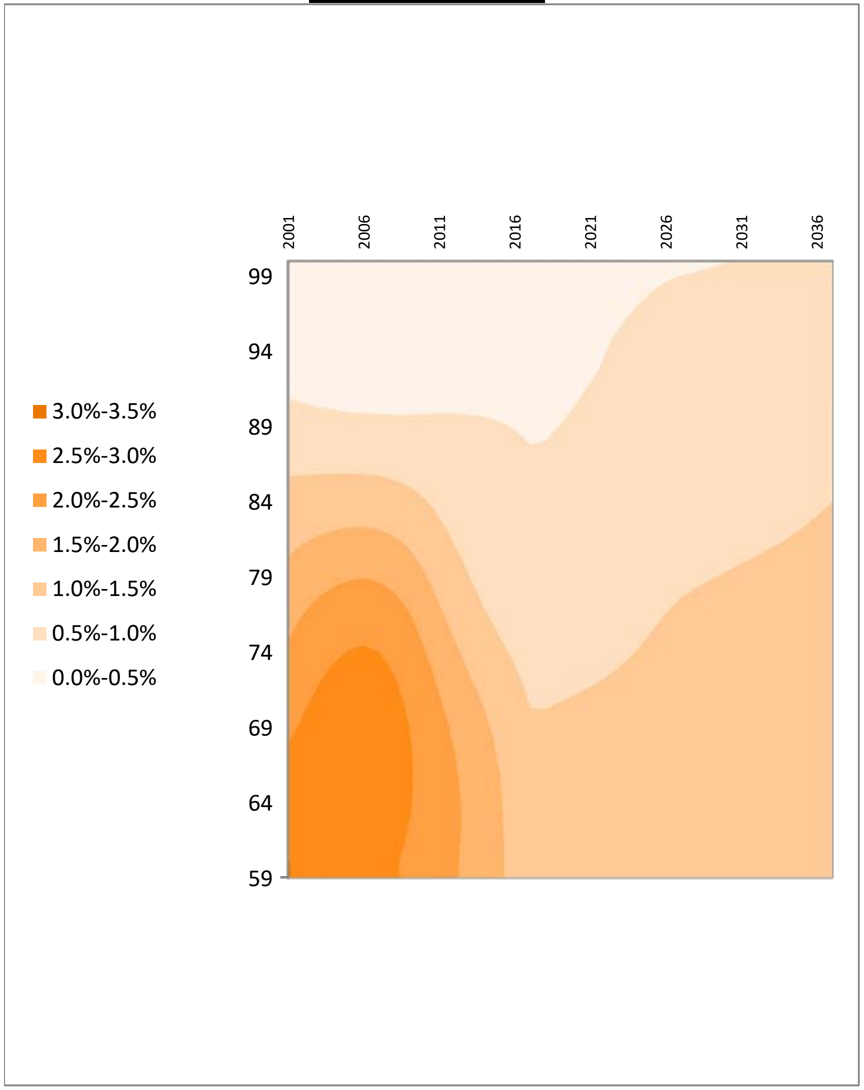


2018 MI

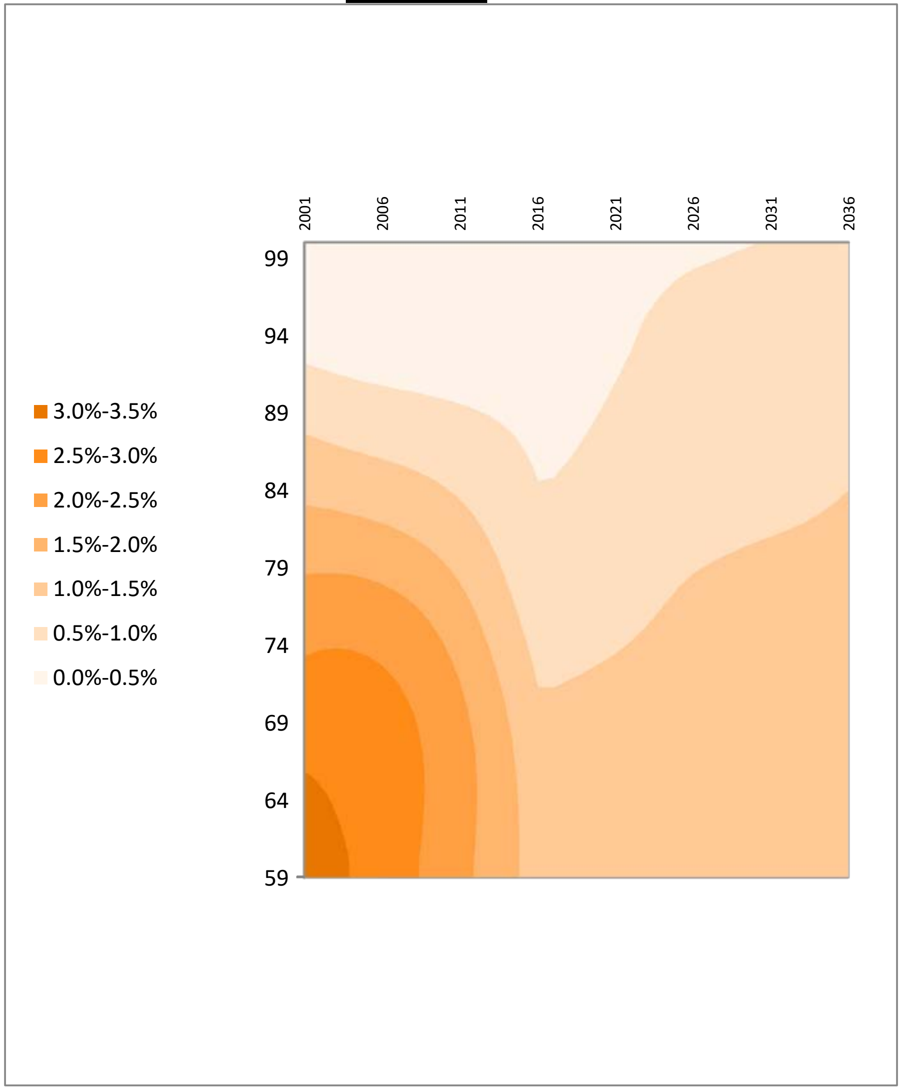


Attachment 2: DoD Mortality Improvement Heat Map - Retired Reserve Enlisted

Proposed MI

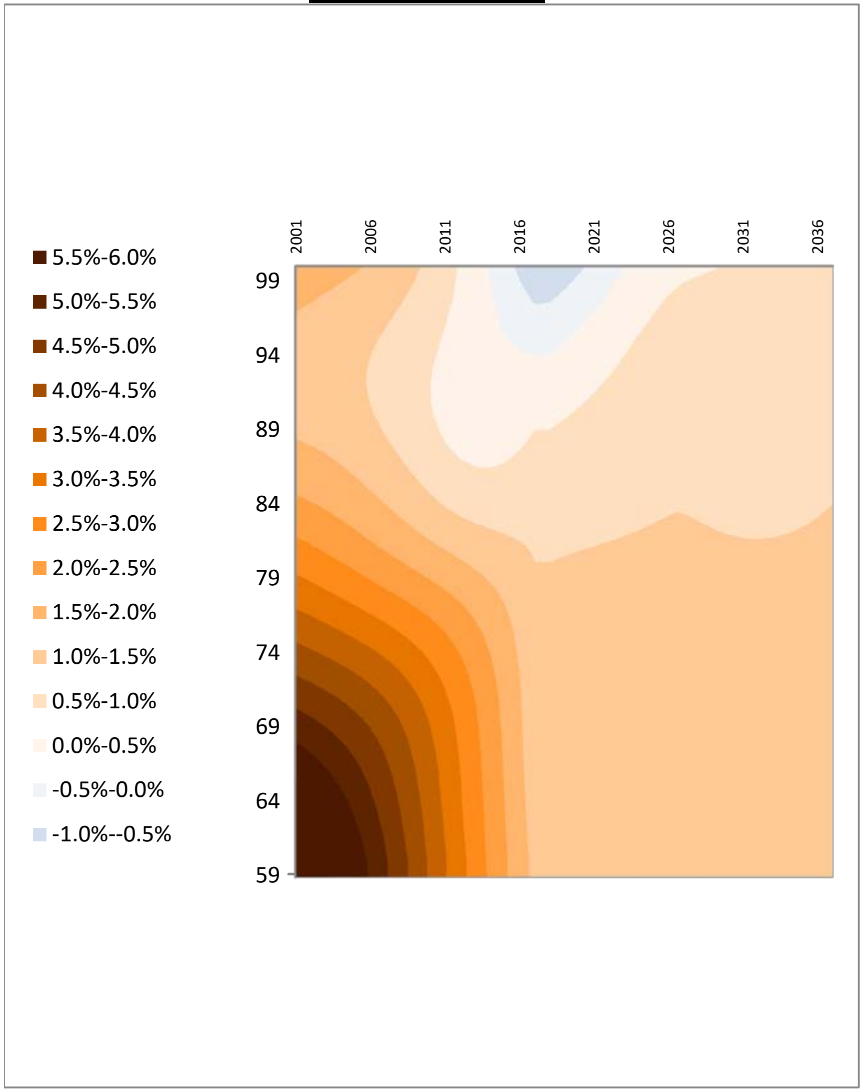


2018 MI

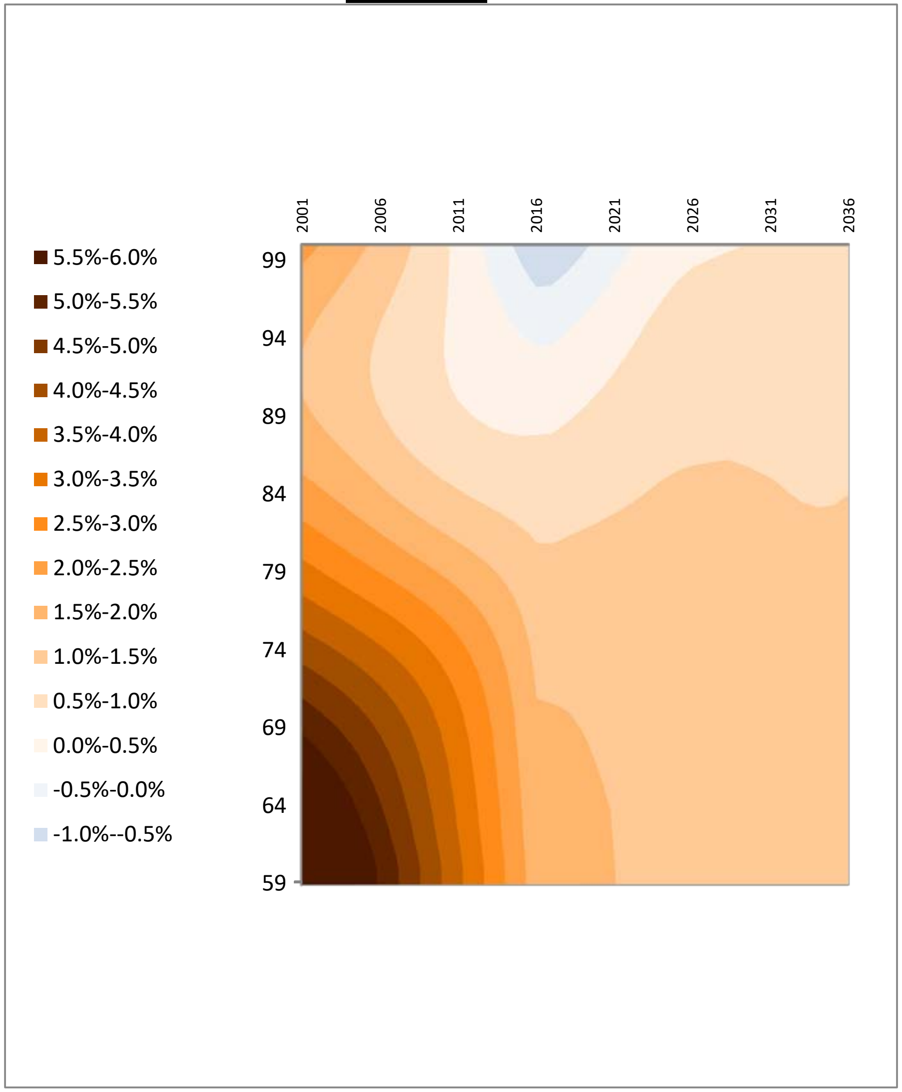


Attachment 2: DoD Mortality Improvement Heat Map - Retired Reserve Officer

Proposed MI

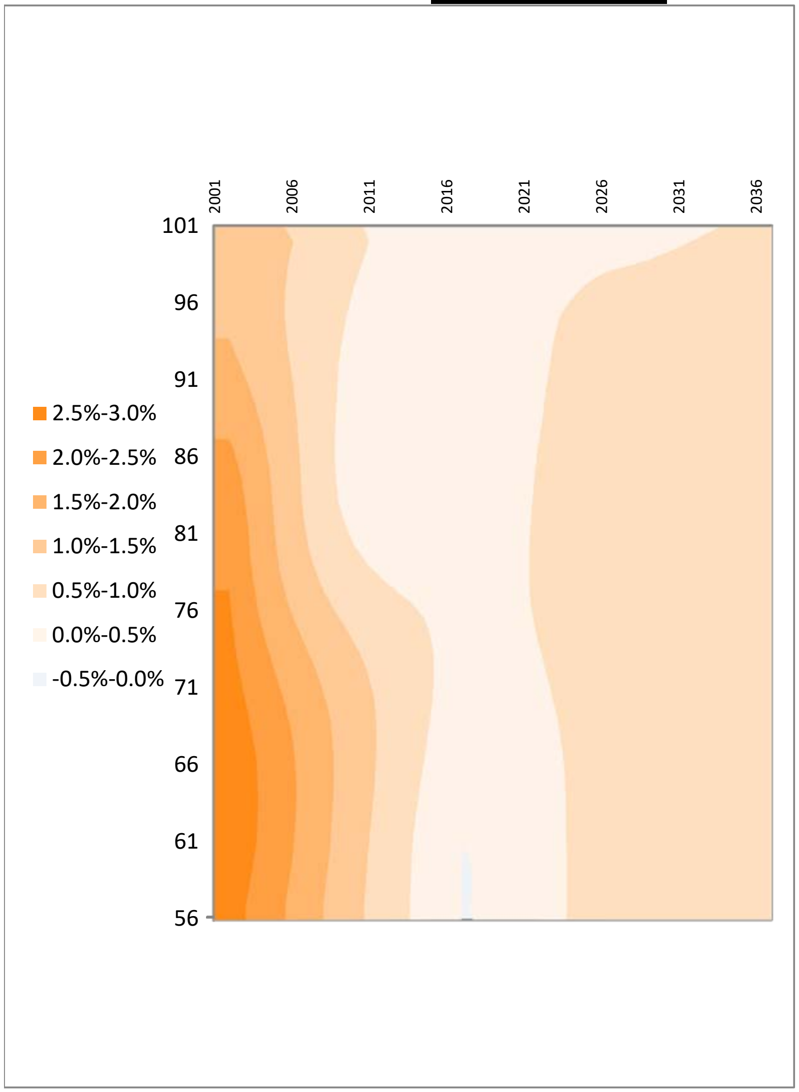


2018 MI

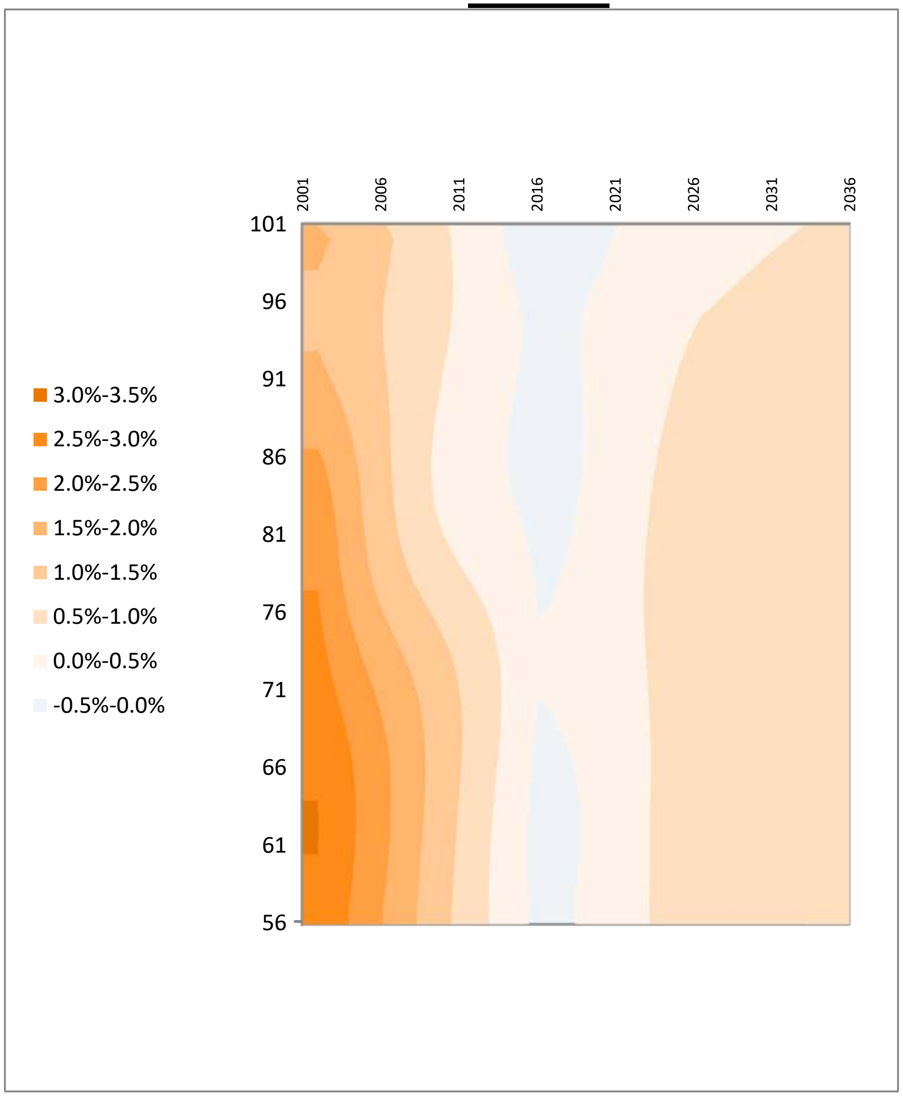


Attachment 2: DoD Mortality Improvement Heat Map - Spouses

Proposed MI



2018 MI



Attachment 3

Current Full and partial VA offset parameters for disability*	Active Duty: Current Total	Active Duty: Updated Total	Active Duty: Current DoD	Active Duty: Updated DoD	Reserve: Current Total	Reserve: Updated Total	Reserve: Current DoD	Reserve: Updated DoD
Dis Full VA waiver $ weighted off under 20	5.5%	16.0%	6.5%	19.2%	5.5%	9.6%	6.5%	10.3%
Dis Full VA waiver $ weighted enl under 20	23.5%	68.5%	26.8%	59.2%	23.5%	50.5%	26.8%	41.5%
Dis Full VA waiver ppl weighted off under 20	6.7%	23.5%	7.9%	27.5%	6.7%	14.6%	7.9%	15.4%
Dis Full VA waiver ppl weighted enl under 20	24.3%	74.1%	27.5%	84.4%	24.3%	55.2%	27.5%	61.6%
Dis Full VA waiver $ weighted off over 20	0.0%	0.0%	3.4%	8.1%	0.0%	2.9%	3.4%	3.3%
Dis Full VA waiver $ weighted enl over 20	0.0%	0.0%	14.6%	55.2%	0.0%	36.2%	14.6%	36.2%
Dis Full VA waiver ppl weighted off over 20	0.0%	0.0%	3.6%	11.8%	0.0%	5.1%	3.6%	5.6%
Dis Full VA waiver ppl weighted enl over 20	0.0%	0.0%	15.5%	59.2%	0.0%	33.5%	15.5%	41.5%
Dis Partial VA-Waiver Off - Under 20	19.1%	58.8%	18.8%	62.3%	19.1%	47.7%	18.8%	54.3%
Dis Partial VA-Waiver Off - Over 20	4.9%	11.1%	23.3%	59.0%	4.9%	40.0%	23.3%	50.2%
Dis Partial VA-Waiver Enl - Under 20	17.6%	56.3%	15.6%	61.7%	17.6%	58.5%	15.6%	68.3%
Dis Partial VA-Waiver Enl - Over 20	5.2%	27.1%	26.2%	70.7%	5.2%	47.0%	26.2%	53.7%
Dis Partial VA-Waiver SBP Off - Under 20	19.3%	56.6%	19.0%	59.3%	19.3%	47.6%	19.0%	51.5%
Dis Partial VA-Waiver SBP Off - Over 20	5.2%	9.9%	23.5%	60.9%	5.2%	40.4%	23.5%	54.4%
Dis Partial VA-Waiver SBP Enl - Under 20	16.3%	52.3%	14.3%	59.9%	16.3%	57.8%	14.3%	65.6%
Dis Partial VA-Waiver SBP Enl - Over 20	5.1%	14.0%	25.0%	55.9%	5.1%	48.7%	25.0%	67.4%

*same for BRS and non-BRS dis

Attachment 4: Blow-up Factors

	Enlisted				Officer			
Age	New Grey Area Retirees	Reserves "Out of Nowhere"	Proposed Blow-up Factors	Current Blow-up Factors	New Grey Area Retirees	Reserves "Out of Nowhere"	Proposed Blow-up Factors	Current Blow-up Factors
59	5,517	395	1.072	1.154	2,296	72	1.031	1.083
60	10,223	933	1.091	1.190	3,901	209	1.054	1.105
61	174	280	2.609	2.589	88	39	1.443	2.331
62	44	246	6.591	4.919	23	43	2.870	4.536
63+	77	331	5.299	4.888	45	122	3.711	4.026

Tabulations based on Fys 2018-2019 data

current factors a/e

	enl	off	total
exp'd curr	3,540	935	4,475
exp'd prop'd	2,185	485	2,670
actual	2,185	485	2,670
act/exp curr	62%	52%	60%
act/exp prop'd	100%	100%	100%

Attachment 4

Officer Grey Area Loss Rates Current Rates

	YOS																						
Age	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
36	0.018	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	0.018	0.018	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38	0.034	0.018	0.018	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39	0.037	0.034	0.018	0.018	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
40	0.035	0.037	0.034	0.018	0.018	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	0.115	0.035	0.037	0.034	0.018	0.018	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	0.021	0.015	0.035	0.042	0.037	0.018	0.018	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	0.026	0.021	0.028	0.041	0.029	0.044	0.018	0.018	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44	0.022	0.026	0.027	0.032	0.026	0.043	0.031	0.018	0.018	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	0.031	0.022	0.02	0.022	0.031	0.033	0.016	0.024	0.018	0.018	0	0	0	0	0	0	0	0	0	0	0	0	0
46	0.03	0.031	0.033	0.022	0.022	0.025	0.032	0.037	0.031	0.018	0.018	0	0	0	0	0	0	0	0	0	0	0	0
47	0.013	0.03	0.045	0.028	0.025	0.03	0.023	0.021	0.019	0.035	0.018	0.018	0	0	0	0	0	0	0	0	0	0	0
48	0.026	0.013	0.034	0.031	0.03	0.019	0.022	0.022	0.021	0.026	0.018	0.018	0.018	0	0	0	0	0	0	0	0	0	0
49	0.026	0.026	0.013	0.049	0.031	0.025	0.021	0.021	0.019	0.016	0.022	0.013	0.018	0.018	0	0	0	0	0	0	0	0	0
50	0.026	0.026	0.026	0.013	0.028	0.03	0.029	0.023	0.015	0.014	0.016	0.017	0.015	0.018	0.018	0	0	0	0	0	0	0	0
51	0.026	0.026	0.026	0.026	0.047	0.029	0.022	0.015	0.016	0.011	0.008	0.011	0.011	0.015	0.018	0.018	0	0	0	0	0	0	0
52	0.026	0.026	0.026	0.026	0.026	0.018	0.017	0.028	0.022	0.011	0.007	0.005	0.006	0.008	0.005	0.018	0.018	0	0	0	0	0	0
53	0.026	0.026	0.026	0.026	0.026	0.026	0.017	0.02	0.032	0.013	0.014	0.004	0.006	0.009	0.011	0.009	0.018	0.018	0	0	0	0	0
54	0.026	0.026	0.026	0.026	0.026	0.026	0.026	0.016	0.022	0.011	0.009	0.007	0.003	0.004	0.006	0.011	0.009	0.018	0.018	0	0	0	0
55	0.026	0.026	0.026	0.026	0.026	0.026	0.026	0.026	0.016	0.013	0.01	0.013	0.006	0.004	0.004	0.006	0.011	0.007	0.018	0.018	0	0	0
56	0.026	0.026	0.026	0.026	0.026	0.026	0.026	0.026	0.026	0.016	0.013	0.01	0.007	0.004	0.005	0.003	0.012	0.011	0.008	0.018	0.018	0	0
57	0.026	0.026	0.026	0.026	0.026	0.026	0.026	0.026	0.026	0.026	0.016	0.016	0.01	0.005	0.005	0.003	0.003	0.012	0.011	0.008	0.018	0.018	0
58	0.026	0.026	0.026	0.026	0.026	0.026	0.026	0.026	0.026	0.026	0.026	0.016	0.016	0.01	0.005	0.005	0.004	0.003	0.012	0.011	0.008	0.018	0.018
59	0.026	0.026	0.026	0.026	0.026	0.026	0.026	0.026	0.026	0.026	0.026	0.026	0.016	0.016	0.01	0.017	0.012	0.012	0.016	0.012	0.011	0.008	0.018
60	0.026	0.026	0.026	0.026	0.026	0.026	0.026	0.026	0.026	0.026	0.026	0.026	0.026	0.016	0.016	0.01	0.02	0.021	0.021	0.02	0.012	0.011	0.008
61	0.026	0.026	0.026	0.026	0.026	0.026	0.026	0.026	0.026	0.026	0.026	0.026	0.026	0.026	0.016	0.016	0.01	0.033	0.026	0.013	0.021	0.012	0.011
62	0.026	0.026	0.026	0.026	0.026	0.026	0.026	0.026	0.026	0.026	0.026	0.026	0.026	0.026	0.026	0.016	0.016	0.01	0.033	0.026	0.013	0.021	0.012
63	0.026	0.026	0.026	0.026	0.026	0.026	0.026	0.026	0.026	0.026	0.026	0.026	0.026	0.026	0.026	0.026	0.016	0.016	0.01	0.033	0.026	0.013	0.021

Officer Grey Area Loss Rates Proposed Rates

	YOS																						
Age	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
36	0.009	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	0.009	0.009	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38	0.007	0.009	0.009	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39	0.007	0.007	0.009	0.009	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
40	0.008	0.007	0.007	0.009	0.009	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	0.005	0.008	0.007	0.007	0.009	0.009	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	0.008	0.005	0.008	0.007	0.007	0.009	0.009	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	0.007	0.008	0.005	0.008	0.007	0.007	0.009	0.009	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44	0.008	0.007	0.008	0.005	0.008	0.007	0.007	0.009	0.009	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	0.009	0.008	0.007	0.008	0.005	0.008	0.007	0.007	0.009	0.009	0	0	0	0	0	0	0	0	0	0	0	0	0
46	0.006	0.009	0.008	0.007	0.008	0.005	0.008	0.007	0.007	0.009	0.009	0	0	0	0	0	0	0	0	0	0	0	0
47	0.012	0.006	0.009	0.008	0.007	0.008	0.005	0.008	0.007	0.007	0.009	0.009	0	0	0	0	0	0	0	0	0	0	0
48	0.018	0.012	0.006	0.009	0.008	0.007	0.008	0.005	0.008	0.007	0.007	0.009	0.009	0	0	0	0	0	0	0	0	0	0
49	0.006	0.018	0.012	0.006	0.009	0.008	0.007	0.008	0.005	0.008	0.007	0.007	0.009	0.009	0	0	0	0	0	0	0	0	0
50	0.02	0.006	0.018	0.012	0.006	0.009	0.008	0.007	0.008	0.005	0.008	0.007	0.007	0.009	0.009	0	0	0	0	0	0	0	0
51	0.021	0.02	0.006	0.018	0.012	0.006	0.009	0.008	0.007	0.008	0.005	0.008	0.007	0.007	0.009	0.009	0	0	0	0	0	0	0
52	0.02	0.021	0.02	0.006	0.018	0.012	0.006	0.009	0.008	0.007	0.008	0.005	0.008	0.007	0.007	0.009	0.009	0	0	0	0	0	0
53	0.027	0.02	0.021	0.02	0.006	0.018	0.012	0.006	0.009	0.008	0.007	0.008	0.005	0.008	0.007	0.007	0.009	0.009	0	0	0	0	0
54	0.031	0.027	0.02	0.021	0.02	0.006	0.018	0.012	0.006	0.009	0.008	0.007	0.002	0.005	0.008	0.007	0.007	0.009	0.009	0	0	0	0
55	0.027	0.031	0.027	0.02	0.021	0.02	0.006	0.018	0.012	0.006	0.009	0.008	0.003	0.002	0.005	0.008	0.007	0.007	0.009	0.009	0	0	0
56	0.023	0.027	0.031	0.027	0.02	0.021	0.02	0.006	0.018	0.012	0.006	0.009	0.002	0.003	0.002	0.005	0.008	0.007	0.012	0.009	0.009	0	0
57	0.053	0.023	0.027	0.031	0.027	0.02	0.021	0.02	0.006	0.018	0.012	0.006	0.009	0.002	0.003	0.002	0.005	0.008	0.011	0.012	0.009	0.009	0
58	0.053	0.053	0.023	0.027	0.031	0.027	0.02	0.021	0.02	0.006	0.018	0.012	0.006	0.009	0.002	0.003	0.002	0.005	0.008	0.011	0.012	0.009	0.009
59	0.053	0.053	0.053	0.023	0.027	0.031	0.027	0.021	0.02	0.022	0.006	0.04	0.008	0.014	0.012	0.009	0.01	0.017	0.005	0.035	0.011	0.012	0.009
60	0.053	0.053	0.053	0.053	0.023	0.027	0.031	0.027	0.019	0.02	0.022	0.014	0.012	0.017	0.016	0.022	0.023	0.01	0.014	0.015	0.035	0.011	0.012
61	0.053	0.053	0.053	0.053	0.053	0.023	0.027	0.031	0.027	0.019	0.01	0.022	0.014	0.012	0.005	0.003	0	0.004	0.001	0.005	0.015	0.035	0.011
62	0.053	0.053	0.053	0.053	0.053	0.053	0.023	0.027	0.031	0.027	0.019	0.01	0.022	0.014	0.012	0.005	0.003	0	0.004	0.001	0.005	0.015	0.035
63	0.053	0.053	0.053	0.053	0.053	0.053	0.053	0.023	0.027	0.031	0.027	0.019	0.01	0.022	0.014	0.012	0.005	0.003	0	0.004	0.001	0.005	0.015

Attachment 4

Enlisted Grey Area Loss Rates Current Rates

Age \ YOS	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
36	0.008	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	0.008	0.008	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38	0.013	0.008	0.008	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39	0.009	0.013	0.008	0.008	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
40	0.008	0.009	0.011	0.009	0.008	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	0.015	0.008	0.009	0.009	0.009	0.008	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	0.016	0.015	0.008	0.008	0.008	0.009	0.008	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	0.009	0.016	0.011	0.007	0.007	0.007	0.007	0.008	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44	0.016	0.009	0.016	0.008	0.006	0.007	0.005	0.006	0.008	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	0.008	0.016	0.009	0.009	0.012	0.008	0.006	0.006	0.004	0.008	0	0	0	0	0	0	0	0	0	0	0	0	0
46	0.008	0.008	0.016	0.009	0.008	0.01	0.009	0.005	0.005	0.006	0.008	0	0	0	0	0	0	0	0	0	0	0	0
47	0.007	0.008	0.008	0.013	0.009	0.009	0.011	0.006	0.004	0.005	0.004	0.008	0	0	0	0	0	0	0	0	0	0	0
48	0.007	0.007	0.008	0.008	0.01	0.009	0.006	0.006	0.005	0.004	0.004	0.005	0.008	0	0	0	0	0	0	0	0	0	0
49	0.009	0.007	0.007	0.008	0.008	0.009	0.006	0.007	0.007	0.004	0.003	0.004	0.004	0.008	0	0	0	0	0	0	0	0	0
50	0.006	0.009	0.007	0.007	0.008	0.008	0.009	0.006	0.003	0.005	0.004	0.003	0.004	0.003	0.008	0	0	0	0	0	0	0	0
51	0.012	0.006	0.009	0.007	0.007	0.008	0.008	0.006	0.006	0.004	0.005	0.004	0.003	0.003	0.005	0.008	0	0	0	0	0	0	0
52	0.011	0.012	0.006	0.009	0.007	0.007	0.008	0.008	0.006	0.006	0.006	0.003	0.004	0.004	0.003	0.003	0.008	0	0	0	0	0	0
53	0.014	0.011	0.012	0.006	0.009	0.007	0.007	0.008	0.008	0.005	0.008	0.002	0.004	0.004	0.003	0.004	0.005	0.008	0	0	0	0	0
54	0.017	0.014	0.011	0.012	0.006	0.009	0.007	0.007	0.006	0.008	0.005	0.005	0.004	0.004	0.004	0.003	0.003	0.005	0.008	0	0	0	0
55	0.026	0.017	0.014	0.011	0.012	0.006	0.009	0.007	0.007	0.005	0.005	0.005	0.003	0.004	0.005	0.004	0.003	0.002	0.003	0.008	0	0	0
56	0.018	0.026	0.017	0.014	0.011	0.012	0.006	0.009	0.005	0.007	0.004	0.004	0.004	0.006	0.003	0.004	0.003	0.004	0.005	0.003	0.008	0	0
57	0.018	0.018	0.026	0.017	0.014	0.011	0.012	0.009	0.009	0.005	0.007	0.003	0.004	0.005	0.003	0.004	0.005	0.005	0.004	0.005	0.003	0.008	0
58	0.018	0.018	0.018	0.026	0.017	0.014	0.011	0.012	0.008	0.004	0.007	0.004	0.007	0.004	0.004	0.006	0.006	0.005	0.004	0.004	0.006	0.003	0.008
59	0.018	0.018	0.018	0.018	0.026	0.017	0.014	0.014	0.011	0.02	0.018	0.024	0.021	0.023	0.025	0.027	0.027	0.024	0.028	0.025	0.023	0.013	0.003
60	0.018	0.018	0.018	0.018	0.018	0.026	0.017	0.024	0.031	0.027	0.018	0.036	0.034	0.031	0.029	0.035	0.045	0.041	0.04	0.035	0.04	0.023	0.013
61	0.018	0.018	0.018	0.018	0.018	0.018	0.026	0.063	0.024	0.036	0.027	0.024	0.014	0.048	0.049	0.027	0.036	0.038	0.041	0.014	0.007	0.007	0.023
62	0.018	0.018	0.018	0.018	0.018	0.018	0.018	0.026	0.063	0.024	0.036	0.027	0.024	0.014	0.048	0.049	0.027	0.036	0.038	0.041	0.014	0.007	0.007
63	0.018	0.018	0.018	0.018	0.018	0.018	0.018	0.018	0.026	0.063	0.024	0.036	0.027	0.024	0.014	0.048	0.049	0.027	0.036	0.038	0.041	0.014	0.007

Enlisted Grey Area Loss Rates Proposed Rates

Age \ YOS	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
36	0.003	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	0.005	0.003	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38	0.005	0.005	0.003	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39	0.005	0.005	0.005	0.003	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
40	0.003	0.005	0.005	0.005	0.003	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	0.008	0.003	0.005	0.005	0.005	0.003	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	0.004	0.008	0.003	0.005	0.005	0.005	0.003	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	0.004	0.004	0.008	0.003	0.005	0.006	0.005	0.003	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44	0.004	0.004	0.004	0.008	0.003	0.004	0.004	0.005	0.003	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	0.01	0.004	0.004	0.004	0.008	0.003	0.004	0.003	0.005	0.003	0	0	0	0	0	0	0	0	0	0	0	0	0
46	0.004	0.01	0.004	0.004	0.004	0.008	0.003	0.003	0.002	0.004	0.003	0	0	0	0	0	0	0	0	0	0	0	0
47	0.012	0.004	0.01	0.004	0.004	0.004	0.008	0.003	0.002	0.003	0.002	0.003	0	0	0	0	0	0	0	0	0	0	0
48	0.016	0.012	0.004	0.01	0.004	0.004	0.004	0.008	0.003	0.004	0.002	0.002	0.003	0	0	0	0	0	0	0	0	0	0
49	0.01	0.016	0.012	0.004	0.01	0.004	0.004	0.004	0.008	0.003	0.002	0.003	0.003	0.003	0	0	0	0	0	0	0	0	0
50	0.007	0.01	0.016	0.012	0.004	0.01	0.004	0.004	0.004	0.008	0.003	0.002	0.003	0.002	0.003	0	0	0	0	0	0	0	0
51	0.006	0.007	0.01	0.016	0.012	0.004	0.01	0.004	0.004	0.004	0.008	0.003	0.002	0.003	0.002	0.003	0	0	0	0	0	0	0
52	0.01	0.006	0.007	0.01	0.016	0.012	0.004	0.01	0.004	0.004	0.004	0.002	0.002	0.004	0.002	0.003	0.003	0	0	0	0	0	0
53	0.001	0.01	0.006	0.007	0.01	0.016	0.012	0.004	0.01	0.004	0.004	0.004	0	0.003	0.003	0.004	0.003	0.003	0	0	0	0	0
54	0.014	0.001	0.01	0.006	0.007	0.01	0.016	0.012	0.004	0.01	0.004	0.004	0.005	0	0.005	0.003	0.003	0.004	0.003	0	0	0	0
55	0.018	0.014	0.001	0.01	0.006	0.007	0.01	0.016	0.012	0.004	0.01	0.004	0	0.003	0.004	0.002	0.004	0.003	0.003	0.003	0	0	0
56	0.035	0.018	0.014	0.001	0.01	0.006	0.007	0.01	0.016	0.012	0.004	0	0.004	0.008	0.002	0.004	0.004	0.004	0.004	0.004	0.003	0	0
57	0.01	0.035	0.018	0.014	0.001	0.01	0.006	0.007	0.01	0.016	0.012	0.004	0	0.004	0.003	0.004	0.003	0.003	0.005	0.003	0.005	0.003	0
58	0.105	0.01	0.035	0.018	0.014	0.001	0.01	0.006	0.007	0.01	0.016	0.012	0.004	0.005	0.004	0.005	0.004	0.005	0.004	0.004	0.006	0.006	0.003
59	0.043	0.105	0.01	0.035	0.018	0.014	0.001	0.01	0.006	0.039	0.01	0.04	0.012	0.044	0.042	0.042	0.044	0.04	0.042	0.049	0.038	0.048	0.061
60	0.043	0.043	0.105	0.01	0.035	0.086	0.088	0.087	0.066	0.073	0.049	0.082	0.061	0.045	0.065	0.064	0.064	0.075	0.063	0.077	0.062	0.076	0.059
61	0.043	0.043	0.043	0.105	0.01	0.035	0	0	0	0	0	0	0	0.009	0	0.007	0.011	0.005	0.007	0.009	0.026	0.062	0.013
62	0.043	0.043	0.043	0.043	0.105	0.01	0.035	0	0	0	0	0	0	0	0.009	0	0.007	0.011	0.005	0.007	0.009	0.014	0.062
63	0.043	0.043	0.043	0.043	0.043	0.105	0.01	0.035	0	0	0	0	0	0	0	0.009	0	0.007	0.011	0.005	0.007	0.009	0.007

Attachment 5: FY 2017-19 Reserve Retirement rate development

	Exposure				Retirements				Crude rates				Current rates*				Proposed Rates			
	PT Selected reserves		Grey Area		PT Selected reserves		Grey Area		PT Selected reserves		Grey Area		PT Selected reserves		Grey Area		PT Selected reserves		Grey Area	
Age	Officers	Enlisted	Officers	Enlisted	Officers	Enlisted	Officers	Enlisted	Officers	Enlisted	Officers	Enlisted	Officers	Enlisted	Officers	Enlisted	Officers	Enlisted	Officers	Enlisted
39	12,739	31,761	166	1,636	1	11	0	0	0.000	0.000	0.000	0.000	0.001	0.001	0.000	0.000	0.001	0.001	0.000	0.000
40	11,752	27,617	277	2,775	1	15	0	0	0.000	0.001	0.000	0.000	0.001	0.002	0.000	0.000	0.001	0.002	0.000	0.000
41	11,057	24,031	458	3,928	4	18	0	1	0.000	0.001	0.000	0.000	0.001	0.001	0.001	0.000	0.001	0.001	0.001	0.000
42	10,565	21,325	763	5,270	12	16	0	3	0.001	0.001	0.000	0.001	0.001	0.002	0.000	0.000	0.001	0.002	0.000	0.001
43	10,105	19,449	1,241	6,515	20	27	0	1	0.002	0.001	0.000	0.000	0.002	0.002	0.002	0.000	0.002	0.002	0.002	0.000
44	9,736	18,247	1,763	8,142	33	23	0	1	0.003	0.001	0.000	0.000	0.002	0.003	0.002	0.000	0.004	0.003	0.002	0.000
45	9,601	17,834	2,424	10,453	30	30	1	0	0.003	0.002	0.000	0.000	0.002	0.003	0.001	0.000	0.004	0.003	0.001	0.000
46	10,006	18,113	3,248	13,541	29	32	1	1	0.003	0.002	0.000	0.000	0.002	0.003	0.001	0.000	0.003	0.003	0.001	0.000
47	10,252	17,733	4,232	16,578	31	23	0	1	0.003	0.001	0.000	0.000	0.003	0.003	0.001	0.000	0.004	0.003	0.001	0.000
48	10,016	16,918	5,226	19,280	38	35	0	3	0.004	0.002	0.000	0.000	0.004	0.004	0.001	0.000	0.004	0.004	0.001	0.000
49	9,309	15,479	6,158	21,530	33	36	2	5	0.004	0.002	0.000	0.000	0.004	0.004	0.001	0.000	0.004	0.004	0.001	0.000
50	8,515	14,174	7,420	24,006	43	23	3	1	0.005	0.002	0.000	0.000	0.004	0.004	0.002	0.000	0.006	0.004	0.002	0.000
51	7,673	13,032	8,742	26,398	42	20	12	0	0.005	0.002	0.001	0.000	0.004	0.004	0.001	0.000	0.006	0.004	0.002	0.000
52	6,822	12,133	10,129	29,579	59	28	13	2	0.009	0.002	0.001	0.000	0.004	0.003	0.002	0.000	0.010	0.003	0.002	0.000
53	5,871	11,202	11,627	33,017	54	34	38	8	0.009	0.003	0.003	0.000	0.004	0.003	0.001	0.000	0.011	0.004	0.004	0.000
54	5,026	10,233	12,606	36,177	66	32	73	28	0.013	0.003	0.006	0.001	0.004	0.003	0.001	0.000	0.015	0.004	0.007	0.001
55	4,316	9,022	13,174	38,011	50	58	120	47	0.012	0.006	0.009	0.001	0.004	0.002	0.001	0.000	0.013	0.007	0.011	0.001
56	3,525	7,421	13,104	38,942	76	68	220	122	0.022	0.009	0.017	0.003	0.003	0.002	0.000	0.000	0.025	0.011	0.019	0.004
57	2,917	5,632	13,139	38,635	120	111	363	250	0.041	0.020	0.028	0.006	0.003	0.002	0.000	0.000	0.048	0.023	0.032	0.008
58	2,282	4,406	12,863	37,238	118	288	595	741	0.052	0.065	0.046	0.020	0.012	0.018	0.001	0.001	0.060	0.076	0.054	0.023
59	1,856	3,325	12,553	35,590	510	1,319	5,741	14,212	0.275	0.397	0.457	0.399	0.316	0.415	0.470	0.450	0.275	0.397	0.457	0.399
60	1,159	1,554	6,837	19,304	535	1,264	6,193	16,407	0.462	0.813	0.906	0.850	0.687	0.933	0.950	0.930	0.462	0.813	0.906	0.850
61	516	165	380	1,294	121	85	145	367	0.234	0.515	0.382	0.284	0.4	0.586	0.289	0.303	0.234	0.515	0.382	0.284
62	360	53	205	738	114	35	48	98	0.317	0.660	0.234	0.133	0.533	0.764	0.199	0.186	0.317	0.660	0.234	0.133
63+	780	18	1,121	3,620	126	7	91	193	0.162	0.389	0.081	0.053	0.276	0.905	0.177	0.133	0.162	0.389	0.081	0.053

* Rates for PT Selected Reserves vary by YOS. Above rates are for YOS=30.

projection assumptions

average annual rate applied to FY 17-19 rates

1.03

number of years projected

5

Use max of projected rate and current

Attachment 5: FY 2017-19 Reserve Retirement rate development

	2016 **			2017				2018				2019		
AGE	Exposure	Retirements	Rate	Exposure	Retirements	Rate	AGE	Exposure	Retirements	Rate	AGE	Exposure	Retirements	Rate
39	28,663	11	0.000	14,657	5	0.000	39	15,328	4	0.000	39	16,317	3	0.000
40	26,436	5	0.000	13,460	5	0.000	40	14,262	6	0.000	40	14,699	5	0.000
41	24,853	7	0.000	12,816	7	0.001	41	13,064	5	0.000	41	13,594	11	0.001
42	23,529	10	0.000	12,866	14	0.001	42	12,481	6	0.000	42	12,576	11	0.001
43	23,649	15	0.001	12,636	17	0.001	43	12,593	15	0.001	43	12,081	16	0.001
44	24,686	14	0.001	13,384	18	0.001	44	12,339	19	0.002	44	12,165	20	0.002
45	26,514	25	0.001	15,147	23	0.002	45	13,165	19	0.001	45	12,000	19	0.002
46	26,982	20	0.001	17,107	22	0.001	46	14,895	26	0.002	46	12,906	15	0.001
47	27,780	19	0.001	17,405	17	0.001	47	16,854	21	0.001	47	14,536	17	0.001
48	27,454	28	0.001	17,759	19	0.001	48	17,175	27	0.002	48	16,506	30	0.002
49	27,351	25	0.001	18,100	25	0.001	49	17,544	25	0.001	49	16,832	26	0.002
50	27,135	30	0.001	18,926	29	0.002	50	17,926	23	0.001	50	17,263	18	0.001
51	28,082	23	0.001	19,386	25	0.001	51	18,742	30	0.002	51	17,717	19	0.001
52	28,416	28	0.001	20,915	38	0.002	52	19,203	32	0.001	52	18,545	32	0.002
53	27,619	23	0.001	22,005	49	0.002	53	20,707	34	0.002	53	19,005	51	0.003
54	26,738	33	0.001	21,660	48	0.002	54	21,828	72	0.003	54	20,554	79	0.004
55	25,161	59	0.002	21,443	81	0.004	55	21,470	87	0.004	55	21,610	107	0.005
56	23,060	87	0.004	20,534	146	0.007	56	21,209	146	0.007	56	21,249	194	0.009
57	21,191	185	0.009	19,120	255	0.013	57	20,259	224	0.011	57	20,944	365	0.017
58	20,434	386	0.019	18,103	534	0.029	58	18,740	519	0.028	58	19,946	689	0.035
59	19,479	7,981	0.410	17,757	7,758	0.437	59	17,416	6,535	0.375	59	18,151	7,489	0.413
60	9,826	7,862	0.800	9,196	7,952	0.865	60	9,387	7,936	0.845	60	10,271	8,511	0.829
61	803	177	0.220	676	212	0.314	61	757	227	0.300	61	922	279	0.303
62	536	93	0.174	393	87	0.221	62	449	99	0.220	62	514	109	0.212
63	1,923	149	0.077	1,739	132	0.076	63	1,834	155	0.085	63	1,966	130	0.066

** FY 2016 data displayed to give a historical view of the trend.

ATTACHMENT 5: GORGO PROJECTION OF NEW RESERVE RETIREMENTS

CURRENT

Sum of tot	Column Labels											
Row Label:	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
39	5	6	6	6	5	5	4	4	4	5	4	4
40	9	10	11	12	11	10	9	9	9	9	9	9
41	5	6	6	7	7	7	6	6	5	6	6	6
42	9	9	10	11	11	12	11	10	10	10	10	10
43	11	12	12	13	14	15	15	14	14	13	12	12
44	13	14	15	16	17	18	18	19	18	17	16	16
45	13	13	13	14	15	15	18	17	17	16	16	15
46	13	13	13	13	14	14	16	15	16	16	16	16
47	15	14	14	14	14	15	15	16	17	18	18	17
48	22	19	18	18	18	18	18	19	20	21	22	23
49	24	21	19	17	17	16	17	17	18	19	20	21
50	26	25	21	19	18	18	17	17	18	18	20	21
51	22	22	21	18	16	15	15	14	14	15	16	17
52	21	20	20	20	17	15	14	14	13	14	14	15
53	18	17	16	16	16	14	12	11	11	11	11	11
54	17	17	16	15	15	15	13	11	10	10	10	10
55	14	13	13	13	12	12	13	10	9	8	8	8
56	8	7	7	7	6	6	6	6	5	5	4	4
57	6	6	6	6	6	5	5	5	5	5	4	4
58	213	290	389	408	10,558	10,284	9,590	9,164	8,728	8,313	7,262	6,149
59	10,501	11,422	11,803	11,962	20,801	8,816	8,322	7,965	7,643	7,268	7,045	5,928
60	10,228	9,830	10,257	10,164	10,124	699	358	384	360	340	347	328
61	789	373	393	389	398	402	443	282	274	244	243	233
62	489	605	268	264	279	269	271	807	437	415	384	365
63	1,945	994	1,231	472	468	480	478	476	6	6	4	7
Grand Tota	24,436	23,778	24,602	23,916	42,880	21,195	19,705	19,312	17,681	16,821	15,521	13,248

PROPOSED

Sum of tot	Column Labels											
Row Label:	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
39	5	6	6	6	5	5	4	4	4	4	4	4
40	9	10	11	12	11	10	9	9	9	9	9	9
41	5	6	6	7	7	7	6	6	5	6	6	6
42	9	9	10	11	11	12	11	10	10	10	10	10
43	11	12	12	13	14	15	15	14	14	13	12	12
44	13	14	15	16	17	18	18	19	18	17	17	16
45	13	13	13	14	15	15	18	17	17	16	16	15
46	13	13	13	13	14	14	16	15	16	17	16	16
47	15	14	14	14	14	15	15	16	17	18	18	17
48	22	19	18	18	18	18	19	19	20	21	22	23
49	24	21	19	17	17	16	17	17	18	19	20	21
50	73	70	60	51	46	45	43	43	44	46	48	49
51	28	28	27	24	21	19	19	19	19	20	20	22
52	33	31	32	31	27	23	22	22	21	21	23	23
53	43	40	39	38	37	32	28	26	26	26	26	27
54	64	64	60	58	57	55	47	42	39	39	38	39
55	96	89	88	83	79	77	76	64	56	53	53	51
56	188	176	164	161	151	144	140	134	117	103	97	96
57	339	348	327	303	297	278	266	259	248	216	190	177
58	894	948	1,049	1,022	879	883	956	760	726	634	634	561
59	9,290	9,688	9,905	9,979	9,307	8,519	8,292	7,590	7,411	7,060	6,789	5,883
60	9,068	8,959	9,059	8,840	8,726	8,176	7,481	7,030	6,758	6,485	6,151	5,975
61	727	644	691	660	661	657	619	547	576	522	491	486
62	447	613	637	629	631	601	590	526	543	515	445	450
63	1,945	1,116	1,380	1,149	1,192	1,158	1,136	1,105	1,028	928	855	314
Grand Tota	23,373	22,954	23,656	23,169	22,255	20,812	19,864	18,312	17,761	16,818	16,008	14,302

Attachment 6: CURRENT Officer Selected Reserve Average Points Per Year

By Entry Age

PEBD Years of Service	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	>62
Under 1	0	87	117	117	116	121	131	136	140	142	134	131	120	116	108	96	99	97	93	99	97	94	99	93	113	87	97	88	90	87	86	87	94	94	78	88	78	74	74	74	74	74	74	74	74	74	74	74
1	0	87	117	117	116	121	131	136	140	142	134	131	120	116	108	96	99	97	93	99	97	94	99	93	113	87	97	88	90	87	86	87	94	94	78	88	78	74	74	74	74	74	74	74	74	74	74	
2	0	87	117	117	116	121	131	136	140	142	134	131	120	116	108	96	99	97	93	99	97	94	99	93	91	90	97	88	90	87	86	87	94	94	78	88	78	74	74	74	74	74	74	74	74	74		
3	0	87	100	115	128	135	132	127	137	130	131	116	110	97	107	93	94	97	89	88	96	84	78	90	89	96	97	96	92	65	81	76	78	78	78	88	78	74	74	74	74	74	74	74	74			
4	0	87	112	131	138	132	127	117	126	120	116	107	101	94	93	83	91	89	94	89	92	94	81	90	87	74	86	82	77	65	93	89	84	78	78	88	78	74	74	74	74	74	74	74				
5	0	135	127	135	132	134	112	108	119	122	122	108	97	95	89	81	90	88	90	84	95	73	89	86	76	82	76	71	81	90	84	77	75	67	78	88	78	74	74	74	74	74	74					
6	0	148	139	138	130	130	110	106	117	112	108	104	92	96	89	82	82	90	88	89	90	82	79	86	93	76	78	75	81	87	77	82	84	116	78	88	78	74	74	74	74	74						
7	0	152	137	139	131	119	108	105	109	110	111	100	97	90	89	90	82	89	86	84	87	82	85	85	94	88	67	91	78	90	76	106	89	90	78	88	78	74	74	74	74							
8	0	135	135	131	131	122	107	104	106	105	107	95	97	97	84	87	80	86	96	83	86	79	83	93	85	91	90	86	72	85	82	102	82	104	78	88	78	74	74	74								
9	0	128	126	131	121	120	104	104	108	107	97	99	97	92	96	97	97	97	86	90	82	87	74	84	78	86	86	69	93	72	82	78	73	104	78	88	78	74	74									
10	0	141	128	133	127	126	104	105	105	105	102	95	93	93	97	86	95	101	88	90	84	96	89	86	82	77	110	102	89	71	66	93	94	118	78	88	78	74										
11	0	125	120	131	124	121	107	105	102	108	105	100	92	87	93	97	93	89	93	87	86	93	86	75	86	93	108	101	82	98	56	99	96	82	78	88	78											
12	0	123	123	125	121	116	104	105	106	105	105	99	93	94	93	89	86	90	88	95	86	95	93	99	93	90	102	80	97	109	88	68	82	103	78	88												
13	0	118	127	120	116	112	105	104	107	107	103	94	98	85	97	95	92	82	88	92	85	95	101	93	87	88	104	96	82	102	81	110	85	95	78													
14	0	126	118	115	112	110	107	103	105	102	101	101	91	86	97	89	93	86	87	97	86	100	97	89	88	93	86	86	85	96	79	80	75	82														
15	0	119	119	116	113	112	108	105	106	103	105	103	92	97	90	88	92	91	90	90	93	90	90	87	90	101	95	85	88	91	91	100	70															
16	0	115	116	117	109	109	105	105	106	102	100	98	97	90	89	89	84	91	93	95	94	90	86	98	94	105	87	101	86	97	61	84																
17	0	115	114	114	109	108	102	103	105	105	107	101	94	90	98	90	99	93	93	93	99	93	93	82	95	107	93	101	82	83	96																	
18	0	123	112	112	107	110	103	104	105	105	105	100	96	90	93	90	97	93	92	91	96	88	90	88	97	88	93	100	82	91																		
19	0	116	112	108	110	109	104	105	105	102	105	97	97	91	94	91	93	96	97	97	96	98	105	95	101	86	93	86	82																			
20	0	111	111	111	113	107	105	105	107	105	102	98	101	99	95	93	104	94	92	90	96	104	97	90	93	85	93	86																				
21	0	112	113	108	111	107	105	105	101	105	105	97	91	101	98	97	98	90	93	105	86	91	89	87	97	85	93																					
22	0	109	108	109	111	106	104	105	105	105	105	102	101	105	97	94	97	101	99	104	91	100	105	87	97	85																						
23	0	108	110	108	105	108	105	105	107	102	99	103	99	101	98	93	105	101	95	90	91	108	106	87	97																							
24	0	113	112	111	109	111	103	104	105	101	101	97	95	102	105	102	104	100	95	88	90	93	106	87																								
25	0	123	110	113	110	109	107	106	104	109	99	101	101	101	93	103	104	99	102	103	100	93	106																									
26	0	106	108	112	110	108	101	104	106	104	96	94	101	101	93	100	95	102	121	118	100	93																										
27	0	102	110	108	110	107	103	105	103	103	101	97	100	106	94	93	92	119	93	82	100																											
28	0	115	105	112	110	108	102	108	107	97	101	93	92	101	93	105	100	97	120	82																												
29	0	108	111	111	101	112	110	108	103	104	101	97	106	94	94	90	103	84	120																													
30	0	92	109	105	111	115	109	110	105	101	105	102	99	108	98	91	82	84																														
31	0	102	108	105	108	106	110	108	107	97	110	101	107	88	114	93	82																															
32	0	131	116	104	114	102	113	108	102	105	113	115	130	72	114	93																																
33	0	133	112	106	111	97	110	112	114	99	104	105	93	72	114																																	
34	0	88	107	94	106	107	109	110	110	105	91	102	93	72																																		
35	0	129	97	107	103	108	110	112	113	124	91	86	93																																			
36	0	108	99	108	108	105	109	111	121	148	91	86																																				
37	0	116	104	108	103	108	113	125	123	104	91																																					
38	0	107	116	106	108	108	122	125	130	104																																						
39	0	89	101	118	116	108	111	125	130																																							
40	0	89	117	111	132	124	111	125																																								
41	0	89	120	120	124	89	111																																									

DESCRIPTION: Selected Reserve Average Points Earned Per Year
Arrayed by entry age, completed PEBD YOS, and paygrade (officer/enlisted).
Annual retirement points (for benefit purposes) accumulated by a Selected Reserve during a fiscal year.
The Average Points Earned Per Year above appear after a 21.1% reduction due to a "half-mobilization" assumption.
Blank cells should be considered a value of zero ('0').

Attachment 6: CURRENT Enlisted Selected Reserve Average Points Per Year

By Entry Age

PEBD Years of Service	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	>62
Under 1	0	123	151	135	120	122	120	121	122	125	118	121	112	119	123	97	102	109	90	101	101	87	75	81	91	82	71	105	92	105	93	98	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90
1	0	108	111	109	107	107	107	107	108	108	108	107	109	107	106	106	108	105	105	106	102	101	97	103	97	118	112	102	47	105	93	98	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90
2	0	112	114	112	110	109	110	109	112	108	108	108	110	108	108	109	110	107	102	104	99	98	99	96	94	108	111	87	115	105	93	98	90	90	90	90	90	90	90	90	90	90	90	90	90	90
3	0	112	112	107	103	104	103	103	104	101	101	101	101	100	101	101	101	97	96	95	99	90	88	89	99	93	91	94	103	105	93	98	90	90	90	90	90	90	90	90	90	90	90	90	90
4	0	104	103	101	98	97	96	97	98	95	95	97	97	95	95	95	94	91	95	95	93	89	93	88	88	98	80	100	109	105	93	98	90	90	90	90	90	90	90	90	90	90	90	90
5	0	104	105	102	101	100	100	100	98	97	97	97	97	97	93	94	98	94	93	93	97	87	87	89	90	103	93	103	102	105	93	98	90	90	90	90	90	90	90	90	90	90	90
6	0	102	102	101	99	101	98	97	96	95	99	93	96	97	96	95	97	95	95	94	97	85	95	90	110	106	93	78	93	105	93	98	90	90	90	90	90	90	90	90	90	90
7	0	102	106	105	103	102	104	101	99	101	102	98	100	96	99	98	102	99	91	102	98	95	106	105	108	102	84	103	109	105	93	98	90	90	90	90	90	90	90	90	90
8	0	107	108	107	105	104	101	103	101	101	104	100	103	102	103	102	104	105	104	104	101	101	101	103	119	100	116	136	96	105	93	98	90	90	90	90	90	90	90	90
9	0	107	107	107	104	105	105	105	105	106	105	105	105	106	105	105	107	104	105	105	102	101	107	101	97	129	102	148	105	105	93	98	90	90	90	90	90	90	90
10	0	105	106	105	102	105	102	105	107	104	106	104	105	105	105	108	103	101	102	104	102	105	101	103	92	117	108	130	101	105	93	98	90	90	90	90	90	90
11	0	101	105	103	103	104	102	102	106	102	102	101	102	105	106	103	105	100	102	101	96	105	105	106	108	101	120	177	114	105	93	98	90	90	90	90	90
12	0	107	105	104	101	103	101	103	102	105	102	102	102	102	99	104	101	101	101	99	97	103	104	100	90	115	112	118	100	105	93	98	90	90	90	90
13	0	104	103	103	102	101	101	103	105	102	101	103	101	103	100	100	101	105	100	95	103	97	95	96	100	94	93	97	121	105	93	98	90	90	90
14	0	105	106	102	104	103	100	101	102	101	102	101	103	106	103	104	102	102	105	100	95	87	101	106	101	105	112	97	128	105	93	98	90	90
15	0	107	105	102	101	102	103	101	101	98	101	102	105	101	99	100	97	95	100	95	96	91	95	95	89	94	83	85	128	105	93	98	90
16	0	106	103	101	100	98	102	101	101	102	99	100	103	98	101	96	101	97	93	96	97	90	89	97	90	111	94	85	128	105	93	98
17	0	104	102	100	100	98	97	98	99	97	98	99	100	99	97	98	98	101	98	97	97	93	96	93	89	99	94	85	128	105	93
18	0	105	101	99	97	99	97	100	98	100	96	97	100	96	100	96	97	93	102	94	97	92	97	97	92	99	94	85	128	105
19	0	105	101	99	100	100	99	98	100	98	100	97	99	97	99	97	98	97	96	97	92	99	93	99	92	99	94	85	128
20	0	112	102	101	100	101	99	100	98	100	97	97	100	97	101	97	101	98	91	93	101	103	95	99	92	99	94	85
21	0	110	103	102	101	101	103	101	100	98	100	99	101	98	97	94	101	99	101	98	97	95	95	99	92	99	94
22	0	108	105	104	103	101	102	101	100	101	97	99	97	105	97	99	100	97	93	105	97	95	95	99	92	99
23	0	104	105	104	104	103	103	103	103	104	98	104	105	98	99	104	100	101	102	103	97	95	95	99	92
24	0	106	106	105	103	101	101	100	101	100	93	103	103	101	101	103	98	101	101	103	97	95	95	99
25	0	108	107	102	101	101	101	103	100	100	99	101	103	101	98	99	97	101	101	103	97	95	95
26	0	102	109	104	99	102	101	101	103	99	97	101	98	101	101	101	97	101	101	103	97	95
27	0	106	106	102	102	103	101	99	97	97	100	97	101	101	99	104	97	101	101	103	97
28	0	118	107	102	102	102	100	97	99	95	100	102	101	101	97	104	97	101	101	103
29	0	106	104	101	100	103	101	97	101	101	99	101	97	100	99	104	97	101	101
30	0	100	104	101	101	101	96	99	98	102	106	103	101	98	99	104	97	101
31	0	95	103	102	99	102	98	101	105	102	101	98	94	98	99	104	97
32	0	99	104	103	99	100	102	104	100	103	101	100	94	98	99	104
33	0	89	98	99	100	98	97	101	102	100	101	100	94	98	99
34	0	99	100	99	97	102	100	98	100	98	101	100	94	98
35	0	112	97	96	101	104	99	97	103	98	101	100	94
36	0	112	100	100	104	103	96	99	103	98	101	100
37	0	112	106	102	101	100	102	100	103	98	101
38	0	112	105	104	105	104	112	88	103	98
39	0	112	107	101	106	104	112	88	103
40	0	112	108	120	117	104	112	88
41	0	112	93	194	49	104	112

DESCRIPTION: Selected Reserve Average Points Earned Per Year
Arrayed by entry age, completed PEBD YOS, and paygrade (officer/enlisted).
Annual retirement points (for benefit purposes) accumulated by a Selected Reserve during a fiscal year.
The Average Points Earned Per Year above appear after a 21.1% reduction due to a "half-mobilization" assumption.
Blank cells should be considered a value of zero ('0').

Attachment 6: PROPOSED Officer Selected Reserve Average Points Per Year

By Entry Age

PEBD Years of Service	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	>62
Under 1	0	66	43	70	58	81	98	107	116	126	134	124	120	121	110	113	110	102	90	98	91	93	95	84	115	140	94	88	77	82	93	95	101	78	91	89	92	89	89	89	89	89	89	89	89	89	89	89
1	0	66	43	70	58	81	98	107	116	126	134	124	120	121	110	113	110	102	90	98	91	93	95	84	115	140	94	88	77	82	93	95	101	78	91	89	92	89	89	89	89	89	89	89	89	89	89	
2	0	66	43	70	58	81	98	107	116	126	134	124	120	121	110	113	110	102	90	98	91	93	95	84	86	83	94	88	77	82	93	95	101	78	91	89	92	89	89	89	89	89	89	89	89	89		
3	0	66	49	75	93	104	103	106	109	112	116	123	118	118	106	101	100	101	97	95	99	93	96	90	89	95	96	90	73	74	73	76	82	95	91	89	92	89	89	89	89	89	89	89	89			
4	0	66	81	99	111	105	99	96	111	113	113	114	116	111	102	93	97	95	93	96	94	93	92	85	91	91	100	84	89	108	86	101	94	97	91	89	92	89	89	89	89	89	89	89				
5	0	83	103	100	104	104	101	100	103	119	117	114	111	113	104	98	100	89	101	109	94	101	99	111	89	110	104	102	89	100	116	108	84	114	91	89	92	89	89	89	89	89	89					
6	0	104	97	109	106	102	108	102	107	111	112	113	107	106	100	104	98	96	101	99	103	91	103	99	92	98	112	120	87	99	102	88	77	101	91	89	92	89	89	89	89	89						
7	0	120	110	100	101	101	108	108	107	115	104	108	106	103	96	95	87	94	94	92	90	87	95	97	96	93	107	100	91	95	95	74	88	68	91	89	92	89	89	89	89							
8	0	101	112	101	98	109	99	107	106	111	111	103	103	98	98	97	101	105	103	86	107	94	110	100	96	97	91	107	92	87	74	100	90	98	91	89	92	89	89	89								
9	0	112	113	113	108	106	104	105	104	109	109	101	104	104	97	102	107	91	103	101	91	103	94	89	98	107	83	117	109	101	75	67	67	81	91	89	92	89	89									
10	0	95	112	123	118	110	104	106	108	113	99	110	109	100	103	103	104	102	95	99	107	92	112	101	95	126	86	93	102	83	75	64	81	114	91	89	92	89										
11	0	96	120	119	119	104	108	108	114	117	114	117	108	113	97	103	106	94	98	98	101	92	103	98	109	98	91	102	74	80	92	103	85	76	91	89	92											
12	0	90	114	121	114	116	115	119	123	120	115	115	111	108	104	107	104	111	100	110	96	98	87	118	111	95	114	102	86	88	90	79	76	128	91	89												
13	0	90	117	122	117	117	121	118	122	118	119	119	114	109	111	100	111	96	99	109	110	102	95	105	101	93	82	94	82	77	93	76	105	119	91													
14	0	111	121	118	112	114	122	119	120	120	115	109	112	116	109	104	107	97	119	101	103	105	96	91	99	96	84	102	86	94	132	102	109	101														
15	0	103	112	122	116	120	119	123	118	114	112	103	121	111	103	99	103	105	101	94	104	90	92	110	100	97	88	98	89	114	111	78	114															
16	0	94	108	115	115	114	116	123	121	114	114	103	112	106	103	100	105	96	96	104	109	87	107	112	109	88	94	134	104	92	129	112																
17	0	104	111	112	106	111	114	122	121	119	115	118	114	108	104	98	102	103	107	105	108	105	119	109	106	99	109	138	98	87	84																	
18	0	95	110	116	112	116	120	120	126	119	112	116	111	101	99	104	106	99	107	107	112	115	125	121	105	98	109	84	98	107																		
19	0	99	106	112	112	118	119	121	124	113	113	107	110	97	107	102	106	105	96	104	102	107	133	113	116	106	109	130	98																			
20	0	102	108	110	106	115	117	120	124	116	117	108	105	111	105	91	96	118	105	111	115	98	102	97	114	87	109	100																				
21	0	96	109	109	113	111	120	115	118	110	110	108	106	103	101	97	106	105	106	123	95	91	102	81	115	87	109																					
22	0	86	110	113	121	109	116	116	120	116	113	107	109	108	103	105	109	88	103	123	97	88	113	81	115	87																						
23	0	95	110	113	118	107	115	108	120	110	109	103	107	107	98	107	105	111	88	117	105	106	97	81	115																							
24	0	106	115	114	114	106	115	113	111	113	113	106	110	103	96	99	99	109	86	101	112	96	97	81																								
25	0	99	111	109	122	113	113	113	110	113	118	108	114	113	111	106	99	118	106	85	131	96	97																									
26	0	113	107	108	114	109	120	115	119	107	117	109	115	107	108	106	111	147	119	152	131	96																										
27	0	118	115	115	113	116	120	123	117	109	110	105	112	105	109	91	105	115	125	111	131																											
28	0	92	109	110	116	112	116	123	123	116	110	110	109	105	126	99	81	109	92	111																												
29	0	84	105	107	108	116	116	125	119	111	117	108	101	95	117	133	98	88	92																													
30	0	86	111	109	115	107	117	125	118	113	117	103	100	96	67	109	115	88																														
31	0	123	104	107	113	110	117	118	127	99	118	109	136	116	139	117	115																															
32	0	96	107	107	108	112	116	129	124	118	110	87	118	88	139	117																																
33	0	111	110	114	115	109	119	131	112	118	121	145	103	88	139																																	
34	0	102	104	120	106	124	122	111	109	134	107	45	103	88																																		
35	0	93	108	110	112	116	125	109	95	148	107	101	103																																			
36	0	80	114	113	120	89	117	135	125	110	107	101																																				
37	0	107	99	100	90	106	113	137	116	89	107																																					
38	0	90	102	100	114	92	110	137	78	89																																						
39	0	87	103	100	110	59	121	137	78																																							
40	0	87	108	107	116	121	121	137																																								
41	0	87	109	95	116	131	121	137																																								

DESCRIPTION: Selected Reserve Average Points Earned Per Year
Arrayed by entry age, completed PEBD YOS, and paygrade (officer/enlisted).
Annual retirement points (for benefit purposes) accumulated by a Selected Reserve during a fiscal year.
Blank cells should be considered a value of zero ('0').

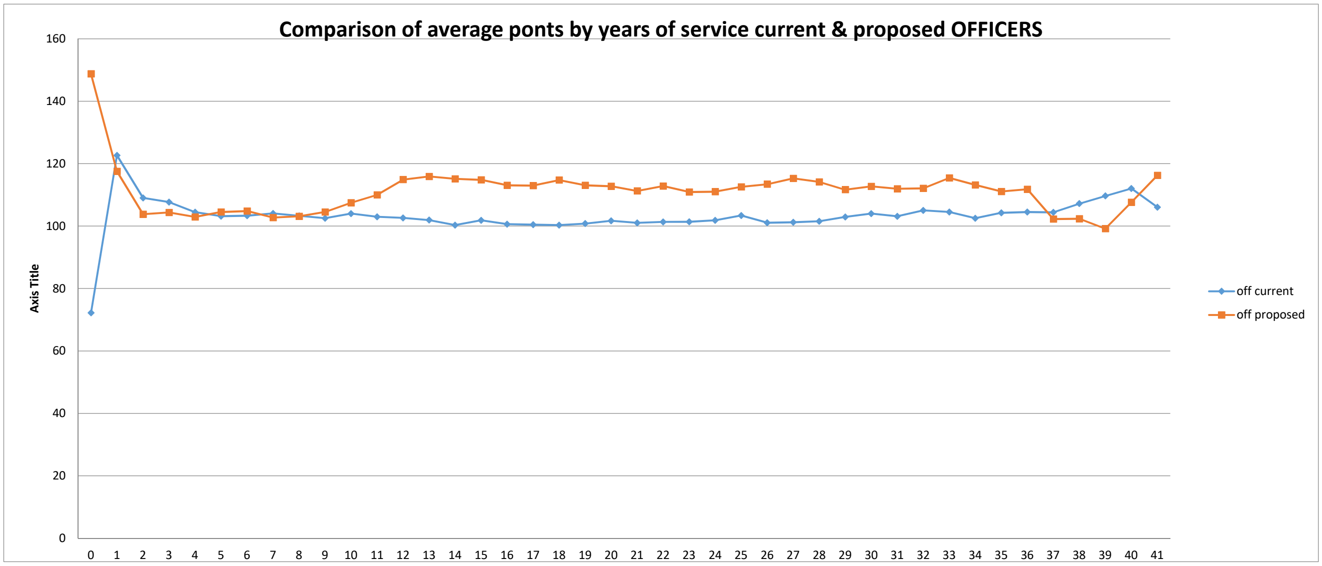
Attachment 6: PROPOSED Enlisted Selected Reserve Average Points Per Year

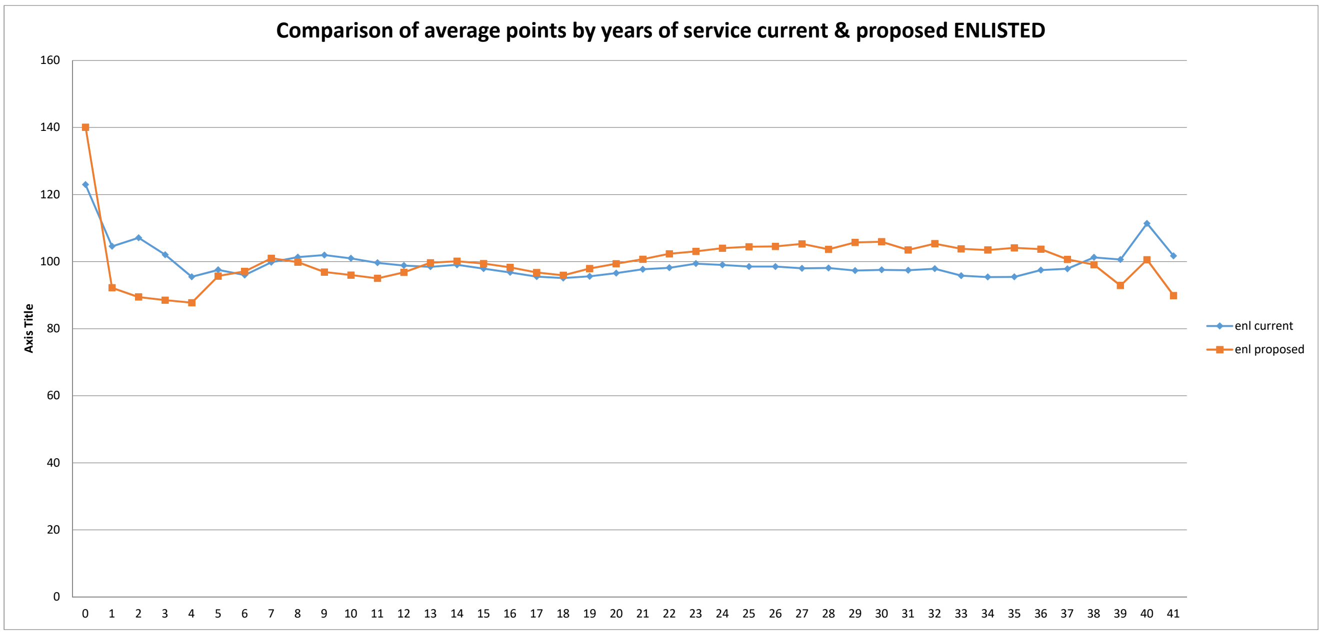
By Entry Age

PEBD Years of Service	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	>62
Under 1	0	210	200	161	126	124	120	128	118	125	125	119	117	118	111	80	63	129	69	124	85	69	76	71	98	51	87	112	91	104	129	102	68	68	68	68	68	68	68	68	68	68	68	68	68	68	68	68
1	0	72	93	90	88	91	90	94	95	96	98	99	102	97	99	101	94	97	96	90	105	134	135	135	125	116	87	120	112	104	129	102	68	68	68	68	68	68	68	68	68	68	68	68	68	68	68	
2	0	84	87	88	88	89	91	92	93	93	92	96	94	96	94	95	95	94	95	89	107	119	129	119	118	121	40	85	187	104	129	102	68	68	68	68	68	68	68	68	68	68	68	68	68	68		
3	0	75	83	88	89	89	89	90	93	95	93	94	93	92	93	98	94	93	90	94	103	110	122	128	123	112	120	117	167	104	129	102	68	68	68	68	68	68	68	68	68	68	68	68	68			
4	0	72	82	86	88	88	89	90	92	93	91	92	93	96	96	95	96	96	91	93	101	114	118	116	108	95	70	119	87	104	129	102	68	68	68	68	68	68	68	68	68	68	68	68				
5	0	73	91	94	96	98	97	96	97	98	97	99	101	101	96	99	101	94	100	97	104	105	122	114	116	110	103	99	79	104	129	102	68	68	68	68	68	68	68	68	68	68	68					
6	0	88	94	96	97	98	98	99	97	99	97	97	98	98	98	95	99	93	104	97	107	104	108	100	124	112	97	95	85	104	129	102	68	68	68	68	68	68	68	68	68	68						
7	0	89	99	102	101	100	103	102	102	101	98	104	101	101	103	102	101	99	100	102	94	103	90	95	101	96	91	112	78	104	129	102	68	68	68	68	68	68	68	68	68							
8	0	98	99	101	101	103	99	99	99	101	97	97	96	97	95	95	99	95	105	99	92	93	97	103	102	103	94	83	60	104	129	102	68	68	68	68	68	68	68	68								
9	0	91	98	98	97	98	95	95	97	101	93	99	94	94	93	99	97	96	102	91	98	99	94	92	103	93	85	90	93	104	129	102	68	68	68	68	68	68	68									
10	0	89	95	99	97	95	96	96	98	98	94	96	90	98	98	92	101	90	95	92	94	96	91	96	102	88	78	82	90	104	129	102	68	68	68	68	68	68										
11	0	80	93	97	95	97	96	96	94	95	96	93	93	91	96	98	102	92	100	104	90	95	90	87	94	79	55	99	76	104	129	102	68	68	68	68	68											
12	0	79	93	98	99	99	97	95	98	99	96	92	97	93	105	93	98	96	103	103	100	95	96	95	102	95	100	102	78	104	129	102	68	68	68	68												
13	0	78	96	102	103	100	98	103	101	97	99	98	98	94	99	104	99	99	103	96	103	103	98	88	94	92	104	87	93	104	129	102	68	68	68													
14	0	91	98	101	103	99	99	102	96	97	99	97	103	99	98	107	104	98	101	102	102	101	102	104	109	104	90	55	82	104	129	102	68	68														
15	0	83	97	100	102	100	98	100	101	96	100	98	106	99	99	98	96	99	104	101	97	103	109	97	95	101	88	59	82	104	129	102	68															
16	0	79	95	99	100	100	99	98	98	100	98	99	101	104	97	93	100	98	96	104	98	103	101	93	105	81	84	59	82	104	129	102																
17	0	80	94	96	97	99	103	94	100	98	100	97	97	98	96	96	101	103	101	97	102	101	95	92	87	84	84	59	82	104	129																	
18	0	76	93	94	97	96	99	94	99	100	99	96	99	98	98	98	99	104	102	98	97	108	89	71	89	84	84	59	82	104																		
19	0	73	95	97	99	100	100	99	97	99	100	101	98	99	91	103	98	99	109	100	104	95	93	95	89	84	84	59	82																			
20	0	87	96	101	101	103	98	98	101	97	100	97	95	100	99	96	101	99	104	99	97	98	104	95	89	84	84	59																				
21	0	94	99	103	100	100	104	101	100	96	103	100	102	106	107	102	97	101	94	96	95	94	104	95	89	84	84																					
22	0	84	98	104	102	106	105	101	103	101	106	104	101	105	102	106	97	106	96	100	94	94	104	95	89	84																						
23	0	86	100	105	104	107	107	100	100	106	103	103	104	100	100	106	104	102	102	98	94	94	104	95	89																							
24	0	88	102	104	106	109	110	99	104	96	104	101	112	111	101	94	109	96	95	98	94	94	104	95																								
25	0	84	105	108	107	103	104	105	108	102	102	104	100	105	96	108	103	93	95	98	94	94	104																									
26	0	106	108	109	106	100	109	101	111	96	100	104	92	110	90	91	100	93	95	98	94	94																										
27	0	115	107	108	106	103	109	103	102	99	103	110	103	96	105	98	100	93	95	98	94																											
28	0	78	104	106	105	104	106	107	100	101	102	98	105	96	93	98	100	93	95	98																												
29	0	88	101	108	107	108	111	105	102	103	110	104	96	101	108	98	100	93	95																													
30	0	87	101	108	109	108	106	103	103	102	111	113	102	95	108	98	100	93																														
31	0	89	102	103	105	106	105	109	101	101	96	101	108	95	108	98	100																															
32	0	98	105	111	106	105	108	103	90	103	98	98	108	95	108	98																																
33	0	101	105	107	107	104	102	98	92	95	105	98	108	95	108																																	
34	0	100	104	105	101	110	102	95	103	101	105	98	108	95																																		
35	0	92	105	104	104	101	109	99	105	101	105	98	108																																			
36	0	92	103	105	103	107	97	110	105	101	105	98																																				
37	0	92	101	101	100	105	90	100	105	101	105																																					
38	0	92	101	100	106	84	93	108	105	101																																						
39	0	92	92	95	87	47	93	108	105																																							
40	0	92	105	100	87	47	93	108																																								
41	0	92	93	71	87	47	93																																									

DESCRIPTION: Selected Reserve Average Points Earned Per Year
Arrayed by entry age, completed PEBD YOS, and paygrade (officer/enlisted).
Annual retirement points (for benefit purposes) accumulated by a Selected Reserve during a fiscal year.
Blank cells should be considered a value of zero ('0').

Attachment 6





Voluntary Separation Incentive Fund Board of Actuaries Meeting

Defense Finance and Accounting Service

Coralita Jones/Lori Haines
Trust Funds Accounting and Reporting Division
Defense Finance and Accounting Service
June 26, 2020

AGENDA

- Overview
- Financial Data
- Fund Status

OVERVIEW

- Short Term Liquidity
  - ✓ No new investing
    - ✓ $12.7 M in overnights (31 May)
    - ✓ $1.9 M in cash (31 May)
  - ✓ Outflows on track to surpass inflows
    - ✓ FY 2020 program expense $27.1 M
    - ✓ FY 2020 program revenue $25.9 M
    - ✓ FY 2020 interest revenue $1.5 M

- Long Term Liquidity
  - ✓ $85.8M long-term par
  - ✓ No new program entrants since 2001

Summary Financial Analysis

Year Ended September 30

(In Millions)

	FY 2019	FY 2018	% Change
Service Contributions	$31.1M	$36.8M	-15%
Interest Income	$2.8M	$2.9M	-.0%
Total Revenue	$33.9M	$39.7M	-15%
Benefit Payments	$49.6M	$62.3M	-20%
Total Expense	$49.6M	$62.3M	-20%

Summary Financial Analysis

Year Ended September 30

(In Millions)

Interest Income

	FY 2019	FY 2018	$ Change
Interest Revenue--Par	$3.1	$3.4	-$..3
Interest Revenue--Inflation	$0.0	$0.0	$0.0
Interest Revenue--Discount	$0.1	$0.1	$0.0
Interest Revenue--Premium	-$0.6	-$0.6	$0.0
	$2.8	$2.9	-$0.3

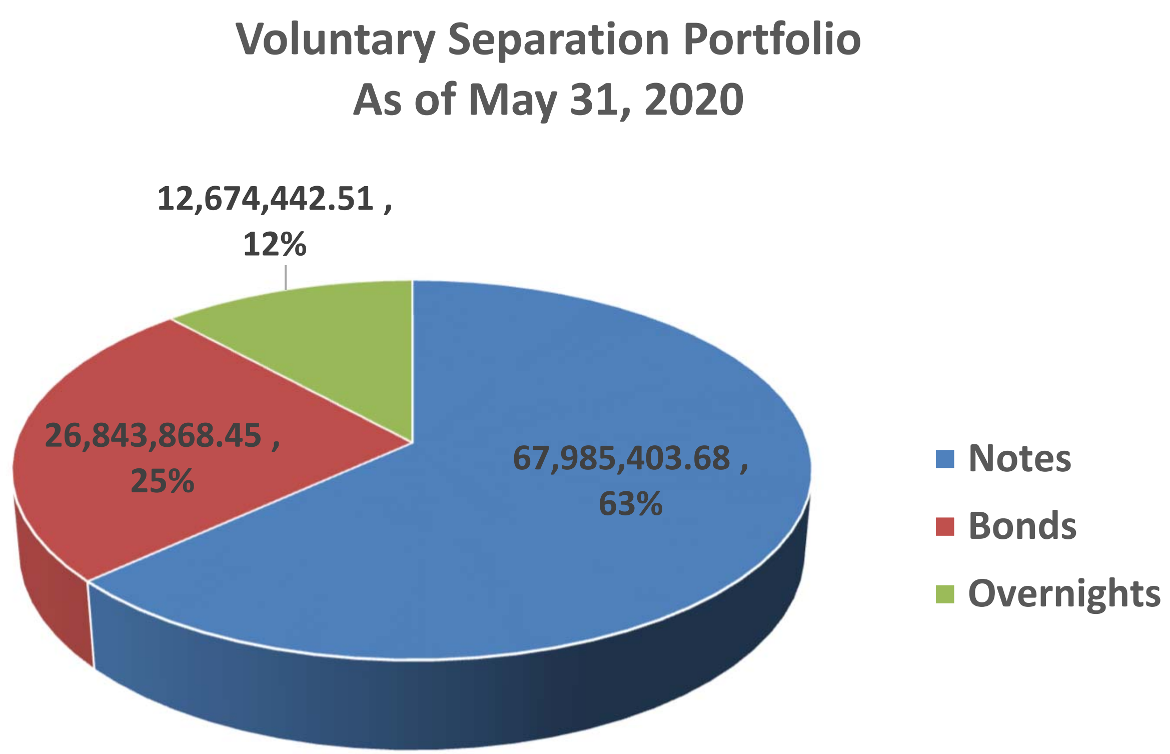
Voluntary Separation Incentive
For the Year Ending September 30, 2019

	(in millions)
Assets	
Fund Balance with Treasury	$ 8.10
Investments	
Overnight	$3.20
Long term	
Par	$85.78
Premium outstanding	$3.97
Discount outstanding	-$.31
Interest receivable	$0.66
Total Long Term Investments	$90.10
Total Investments	$93.30
Total Assets	$101.40
Liabilities	
Military Retirement and Other Federal Employment Benefits	
Due and Payable	$2.90
Actuarial Liability	$219.40
Total Military and Other Federal Employment Benefits	$222.30
Total Liabilities	$222.30
Net Position	
Cumulative Results of Operations	-120.90
Total Liabilities and Net Position	$101.40

Effective Fund Yields

FY	Yield
2009	4.04%
2010	3.95%
2011	3.81%
2012	3.19%
2013	2.60%
2014	1.43%
2015	1.41%
2016	1.50%
2017	1.75%
2018	2.15%
2019	2.43%

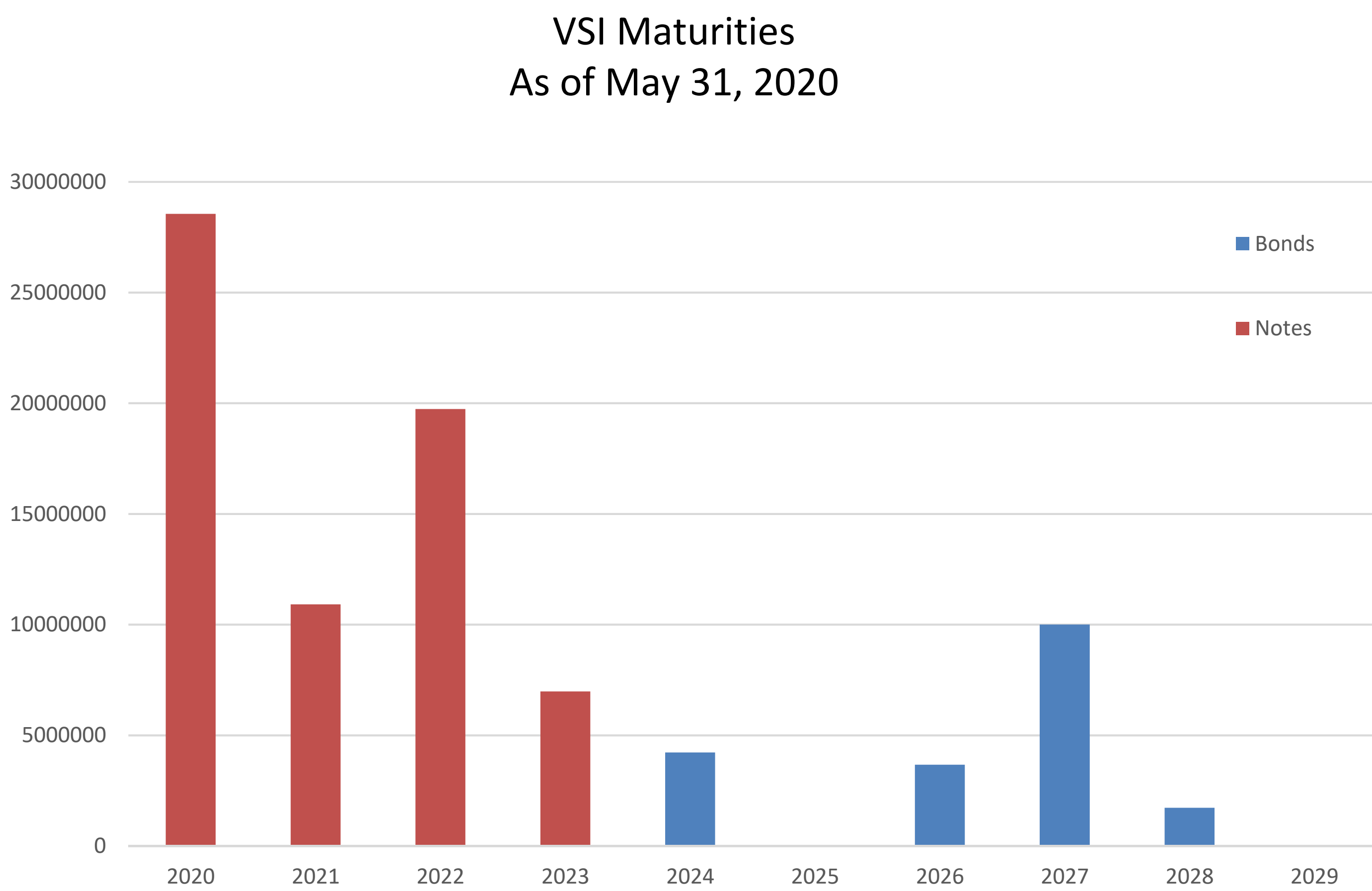
FUND STATUS


Voluntary Separation Portfolio
As of May 31, 2020
12,674,442.51 , 12%
26,843,868.45 , 25%
67,985,403.68 , 63%
Notes
Bonds
Overnights

FUND STATUS

Security Description	Shares/Par	Book Value	Market Value
MK BOND 7.500% 11/15/2024	$ 4,218,497.61	$ 5,143,914.98	$ 5,563,143.72
MK BOND 6.000% 02/15/2026	$ 3,667,977.19	$ 4,410,182.78	$ 4,826,828.73
MK BOND 6.625% 02/15/2027	$ 10,000,000.00	$ 11,680,093.92	$ 14,065,625.00
MK BOND 5.250% 11/15/2028	$ 1,721,664.16	$ 2,052,915.51	$ 2,388,271.00
Total BOND	$ 19,608,138.96	$ 23,287,107.19	$ 26,843,868.45
MK NOTE 2.375% 12/31/2020	$ 12,849,306.46	$ 13,005,380.47	$ 13,013,938.20
MK NOTE 2.000% 11/15/2021	$ 10,913,353.98	$ 10,903,453.18	$ 11,203,239.95
MK NOTE 1.625% 11/15/2022	$ 19,737,380.52	$ 19,532,075.60	$ 20,434,356.77
MK NOTE 2.000% 07/31/2020	$ 15,703,765.57	$ 15,811,277.24	$ 15,747,932.41
MK NOTE 2.750% 11/15/2023	$ 6,977,578.71	$ 7,075,590.55	$ 7,585,936.35
Total NOTE	$ 66,181,385.24	$ 66,327,777.04	$ 67,985,403.68
ONE DAY 2.370% 06/03/2019	$ 12,674,442.51	$ 12,674,541.09	$ 12,674,442.51
Total	$ 88,998069.98	$ 102,289,425.32	$ 107,503,714.64

FUND STATUS



2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	Total
28.6	10.9	19.7	7.0	4.2	0.0	3.7	10.0	1.7	0.0	85.8

Voluntary Separation Incentive (VSI)

BRIEF HISTORY: At the end of the 1980s, the Department of Defense (DoD) began drawing down the size of the U.S. military's active force, from a post-Vietnam peak of 2.2 million in FY 1987 to 1.6 million by FY 1997, a decline of about 25 percent. Initially, the focus of the drawdown was on cutting the number of entrants into the armed forces, but DoD also needed to reduce the number of mid-careerists. To accomplish this reduction in personnel while treating service members fairly and maintaining a high state of readiness, DoD chose to rely on voluntary rather than involuntary separations.

In January 1992, the Voluntary Separation Incentive (VSI) was authorized for all branches of the armed forces to help DoD complete the reduction-in-force while avoiding serious skill and grade imbalances. The program stopped taking new applicants in October 2001. VSI offered members an annuity payable for twice as long as their years of service and equal to 2.5 percent of basic pay times years of service.

To be eligible to receive VSI, an individual must have met all of the following requirements:

- six years of active duty as of December 1991
- five years of continuous active service at separation
- be in a rank that has more people in it than are needed to maintain force readiness
- continue military service in a reserve component

VSI Fund Yield Projection and Current Interest Assumption

FY	Inflation	Real*	Fund Yield	Blue Chip Return on New Invests**
2020	0.93%	1.37%	2.31%	1.15%
2021	2.05%	0.16%	2.21%	1.40%
2022	2.15%	0.16%	2.31%	1.84%
2023	2.20%	-0.07%	2.13%	2.16%
2024	2.20%	0.77%	2.97%	2.46%
2025	2.10%	1.35%	3.45%	2.58%
2026	2.10%	1.61%	3.71%	2.68%
2027	2.10%	1.01%	3.11%	2.75%
2028	2.10%	0.78%	2.88%	2.77%
2029	2.10%	0.36%	2.46%	2.77%
5 Yr Avg	1.91%	0.48%	2.39%	2.26%
5 Yr Fund Wgt Avg	1.79%	0.55%	2.34%	1.87%

FY	Inflation	Real*	Fund Yield	Blue Chip Return on New Invests**
2030	2.10%	0.68%	2.78%	2.78%
2031	2.10%	0.67%	2.77%	2.77%
2032	2.10%	0.67%	2.77%	2.77%
2033	2.10%	0.67%	2.77%	2.77%
2034	2.10%	0.67%	2.77%	2.77%
2035	2.10%	0.67%	2.77%	2.77%
2036	2.10%	0.67%	2.77%	2.77%
2037	2.10%	0.66%	2.76%	2.76%
2038	2.10%	0.65%	2.75%	2.75%
2039	2.10%	0.64%	2.74%	2.74%

Current Interest Assumption
2.25%

Asset Duration	Liability Duration
3.1	3.5

Notes:

* Real = Fund Yield - Inflation (after 3 mths TIPS inflation lag). For inflation, fund yield, and Blue Chip return calculations, the "X Yr Avg" calculation is geometric and the "X Yr Fund Wgt Avg" is weighted by expected fund size during FY.

** Assumes available funds are invested in 2 yr bonds, until maturity values would be more than future expected payments.

--- Short Term Strategy: Mix of overnights and bills.
--- Portfolio Allocation: Notes and bonds (No TIPS).
--- Investment Policy: Maturities matched to cash flows and liquidity requirements. Minimize risks to the funds--all securities are market based Treasury special issues. Hold to maturity policy.

VSI Population by Number of Remaining Payments

(as of September 30, 2019)

Remaining Annual Payments	Enlisted					Officer				
	WITH VA Offset			W/O VA Offset		WITH VA Offset			W/O VA Offset	
	Count	Avg Annual VSI Gross	Avg Annual VA Pay	Count	Avg Annual VSI Gross	Count	Avg Annual VSI Gross	Avg Annual VA Pay	Count	Avg Annual VSI Gross
1	71	$6,744	$3,009	273	$6,399	124	$14,156	$4,428	332	$14,009
2	76	$7,026	$3,082	273	$6,839	63	$14,504	$4,469	217	$14,270
3	66	$7,491	$3,439	270	$7,160	72	$14,961	$5,290	218	$14,510
4	66	$7,876	$3,106	222	$7,505	45	$15,301	$4,871	149	$14,889
5	46	$8,297	$3,271	178	$7,893	52	$16,429	$6,617	135	$15,340
6	43	$8,884	$3,832	162	$8,094	38	$16,752	$4,696	108	$16,653
7	37	$8,894	$3,541	136	$8,805	28	$17,287	$5,476	101	$16,826
8	40	$9,690	$4,007	108	$9,541	35	$18,844	$5,544	50	$17,715
9	39	$9,971	$3,930	102	$9,517	24	$19,971	$3,856	62	$18,469
10	23	$10,349	$4,225	85	$9,619	11	$20,041	$6,016	38	$18,643
11	25	$10,506	$3,624	84	$9,689	7	$20,178	$8,445	40	$16,881
12	18	$11,463	$4,268	35	$10,718	6	$21,470	$11,530	29	$16,972
13	14	$12,001	$4,986	31	$11,789	9	$22,539	$8,193	19	$23,535
14	4	$12,405	$1,680	13	$12,248	6	$25,283	$7,684	11	$23,772
15	2	$13,365	$4,530	6	$12,381	2	$22,673	$8,130	6	$24,532
16	1	$22,747	$3,312	1	$22,808	1	$36,771	$1,680	0	$0
17	0	$0	$0	0	$0	2	$30,434	$4,950	3	$30,403
18	0	$0	$0	0	$0	2	$31,674	$15,444	0	$0
19	0	$0	$0	0	$0	2	$39,049	$10,494	0	$0
20	1	$24,676	$11,220	0	$0	1	$26,391	$8,820	0	$0
21	1	$27,253	$11,568	0	$0	1	$27,253	$14,580	0	$0
22	0	$0	$0	0	$0	0	$0	$0	0	$0
23	0	$0	$0	0	$0	0	$0	$0	0	$0
24	0	$0	$0	0	$0	0	$0	$0	0	$0
25	0	$0	$0	0	$0	0	$0	$0	0	$0
26	0	$0	$0	0	$0	0	$0	$0	0	$0
Total	573	$8,590	$3,518	1,979	$7,962	531	$16,444	$5,293	1,518	$15,515

NOTE: (i) Table includes 4,601 VSI annuitants who have remaining benefit payments.
(ii) Table includes 521 survivors receiving benefits from 394 deceased VSI members.
(iii) Table excludes 739 eligible VSI members who have a full VA offset.
(iv) A total of 18,430 service members have elected VSI since the program's inception.
(v) Final payment is often a partial payment.

10 U.S. Code § 1175 - Voluntary Separation Incentive: http://www.law.cornell.edu/uscode/text/10/1175

VSI
CHANGE IN UNFUNDED LIABILITY (UFL)

($ in Millions)

(A Negative Change Indicates a Gain and a Positive Change Indicates a Loss)

Based on 2.25% interest, 2.2% COLA on VA Offsets and 1.0% Non-COLA increase on VA Offsets

1. 10/1/2018 Unfunded Liability	$148.8		
2. 1/1/2019 Amortization Payment on UFL	$31.1		
3. Interest Rate Assumption	1.0225		
4. Expected Unfunded Liability on 10/1/2019 (1 X 3) - (2 X 3 ^ 0.75)	$120.5		
5. Actual Unfunded Liability on 10/1/2019	$111.6		
6. Total (Gain)/Loss in Unfunded Liability (5 - 4)	**-$8.9**	-4.2%	
A. Total (Gain)/Loss Due to Assets	**-$4.2**	-2.0%	
1. Asset (Gain)/Loss-Yield[1]	-$0.3	-0.13%	--> -0.27%
2. Asset (Gain)/Loss-Benefit Payments[2]	-$3.9	-1.9%	
B. Total(Gain)/Loss Due to Liability	**-$4.7**	-2.2%	
1. Liability (Gain)/Loss-2019 COLA[3]	$0.3	0.15%	
2. Liability (Gain)/Loss-2019 VA Update[4]	-$3.2	-1.5%	
3. Liability (Gain)/Loss-Interest Rate	$0.0	0.0%	
4. Liability (Gain)/Loss-VA Incr. Assump.	$0.0	0.0%	
5. Liability (Gain)/Loss-Residual[5]	-$1.8	-0.8%	

(Percentages shown are ratios of values of each gain or loss component to the PVFB; the ratio of the yield loss to the VSI fund is shown as well).

NOTE:

[1] Valuation assumption: 2.25% fund yield; actual fund yield: 2.43%

[2] Projected FY19 benefit payments: $53.4M; actual FY19 benefit payments: $49.6M

[3] Projected 2020 COLA (excluding the VA Increase Assumption): 2.2%; actual 2020 COLA: 1.6%

[4] Represents actual 2019 VA offsets being different than expected.

[5] Represents DFAS data changes and residual.

VSI AMORTIZATION

($ in Millions)

Based on 2.25% interest, 2.2% COLA on VA Offsets and 1.0% Non-COLA increase on VA Offsets

VSI Valuation Results as of 9/30/2019:

a. 9/30/2019 PVFB $210.1 PVFB Sensitivity at 25 basis points: 1.0%

b. 10/1/2019 Fund $98.5

c. 10/1/2019 UFL $111.6

Amortization Schedule - DECREASING Amortization Payments:

d. 1/1/2021 $21.4

e. 1/1/2022 - expiration 49.8% of FY Projected Benefit Payments

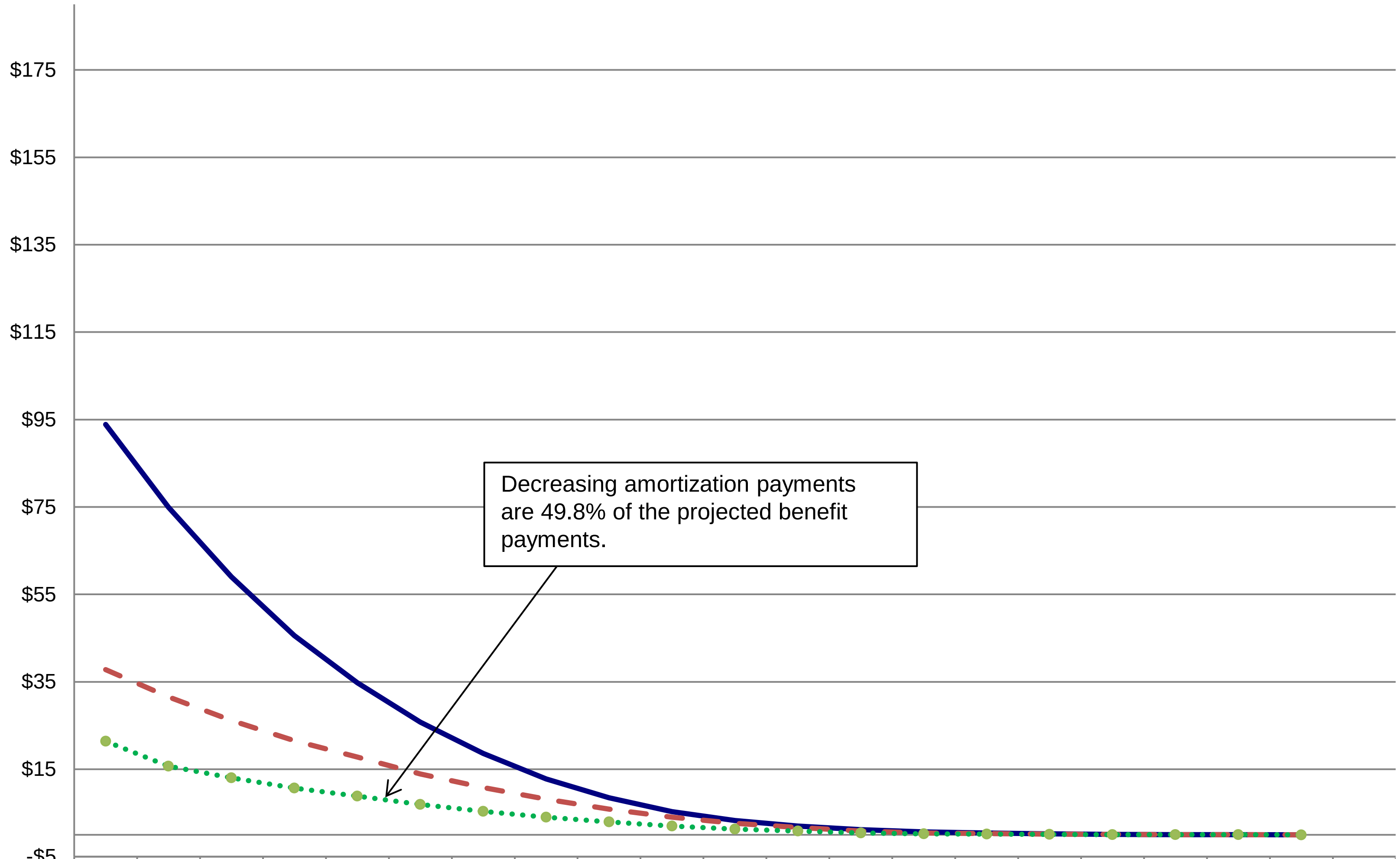
VSI Fund Projections:

	Contributions (paid on Jan. 1)	Jan-1 Fund Balance (After Contribution)	Interest Earned during FY	Benefit Payments during FY	End-of-Fiscal Year Fund Balance
FY 2020	$25.9	$113.6	$2.2	$44.5	$82.2
FY 2021	$21.4	$93.9	$1.8	$37.8	$67.6
FY 2022	**$15.7**	$74.9	$1.5	$31.6	$53.3
FY 2023	$13.0	$59.0	$1.2	$26.2	$41.3
FY 2024	$10.7	$45.6	$0.9	$21.5	$31.4
FY 2025	$8.9	$34.8	$0.7	$17.8	$23.1
FY 2026	$7.0	$25.8	$0.5	$13.9	$16.6
FY 2027	$5.4	$18.6	$0.3	$10.8	$11.6
FY 2028	$4.1	$12.8	$0.2	$8.1	$7.7
FY 2029	$2.9	$8.5	$0.2	$5.9	$4.9
FY 2030	$2.0	$5.3	$0.1	$4.0	$3.0
FY 2031	$1.3	$3.3	$0.1	$2.7	$1.7
FY 2032	$0.8	$2.0	$0.03	$1.7	$0.9
FY 2033	$0.4	$1.2	$0.02	$0.9	$0.5
FY 2034	$0.2	$0.7	$0.01	$0.4	$0.3
FY 2035	$0.1	$0.4	$0.01	$0.3	$0.1
FY 2036	$0.1	$0.2	$0.004	$0.2	$0.1
FY 2037	$0.04	$0.1	$0.002	$0.1	$0.02
FY 2038	$0.02	$0.04	$0.001	$0.04	$0.003
FY 2039	$0.003	$0.007	$0.0001	**$0.007**	$0.000
FY 2040	$0.0000	$0.0000	$0.0000	$0.0000	$0.0000

NOTE: VA compensation offsets VSI payments; VSI liability calculations reflect VA offsets
The last net VSI payment is projected to be in 2039.
49.8% is calculated by finding the percentage that draws fund to zero by the last benefit payment.

VSI CASH FLOW PROJECTIONS

($ in Millions)



	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030	FY 2031	FY 2032	FY 2033	FY 2034	FY 2035	FY 2036	FY 2037	FY 2038	FY 2039	FY 2040
FY Fund Dollars	$93.9	$74.9	$59.0	$45.6	$34.8	$25.8	$18.6	$12.8	$8.5	$5.3	$3.3	$2.0	$1.2	$0.7	$0.4	$0.2	$0.1	$0.04	$0.007	$0.000
Benefit Payments	$37.8	$31.6	$26.2	$21.5	$17.8	$13.9	$10.8	$8.1	$5.9	$4.0	$2.7	$1.7	$0.9	$0.4	$0.3	$0.2	$0.1	$0.04	$0.007	$0.000
Contributions	$21.4	$15.7	$13.0	$10.7	$8.9	$7.0	$5.4	$4.1	$2.9	$2.0	$1.3	$0.8	$0.4	$0.2	$0.1	$0.1	$0.04	$0.02	$0.003	$0.000

S:\TERA-VSI-SSB\2020 Val\vsi1909 at 2.25% DFAS (decreasing amort) JAN pmt (Preliminary)
mtg Chart D

ATTACHMENT 3 (CONTINUED)

Meeting Handouts for the
Department of Defense Board of Actuaries Meeting
(Education Benefits Fund)

Education Benefits Fund

Board of Actuaries Meeting

Defense Finance and Accounting Service

Coralita Jones / Lori Haines

Trust Fund Accounting and Reporting Division

Defense Finance and Accounting Service

June 26, 2020

AGENDA

- Overview
- Financial Data
- Fund Status

OVERVIEW

- **Short Term Liquidity**
  - ➢ Current Year Purchases
    - ✓ Jan 2020 purchased a $25.0M TIPS and two $70.0M Notes
    - ✓ Anticipate continued ability to invest annually going forward
  - ➢ Current Year Maturities
    - ✓ Jan 2020 maturities $101.8M
  - ➢ Outflows exceeding inflows
    - ✓ FY 2020 disbursements through May $165.3M
    - ✓ FY 2020 receipts through May $68.9M (Excl interest of 4.6M)
    - ✓ FY 2020 overnights/cash as of May 31 $108.2M
- **Long Term Liquidity**
  - ➢ New investing for FY 2021
    - ✓ As of EOM May, $148M
    - ✓ Average 5-year term
    - ✓ Will be used to rebalance investment mix
  - ➢ FY 2022-2025 projected investments of $286M

Summary Financial Analysis

Year Ended September 30

(In Thousands)

	FY 2019	FY 2018	% Change
Service Contribution	$187,751	$167,707	12%
Interest Income	30,061	35,608	-16%
Total Revenue	$217,772	203,315	7%
Benefit Payments	$197,760	$220,215	-10%
Total Expense	$164,362	$219,775	-25%

Summary Financial Analysis

Year Ended September 30

(In Thousands)

Interest Income

	FY 2019	FY 2018	$ Change
Interest Revenue - Par	$34,931	$35,952	-$1.021
Interest Revenue - Inflation	$8,786	$13,380	-$4,594
Interest Revenue - Discount	$1,096	$936	$160
Interest Revenue - Premium	-$14,752	-$14,660	-$92
	$30,061	$35,608	-$5.547

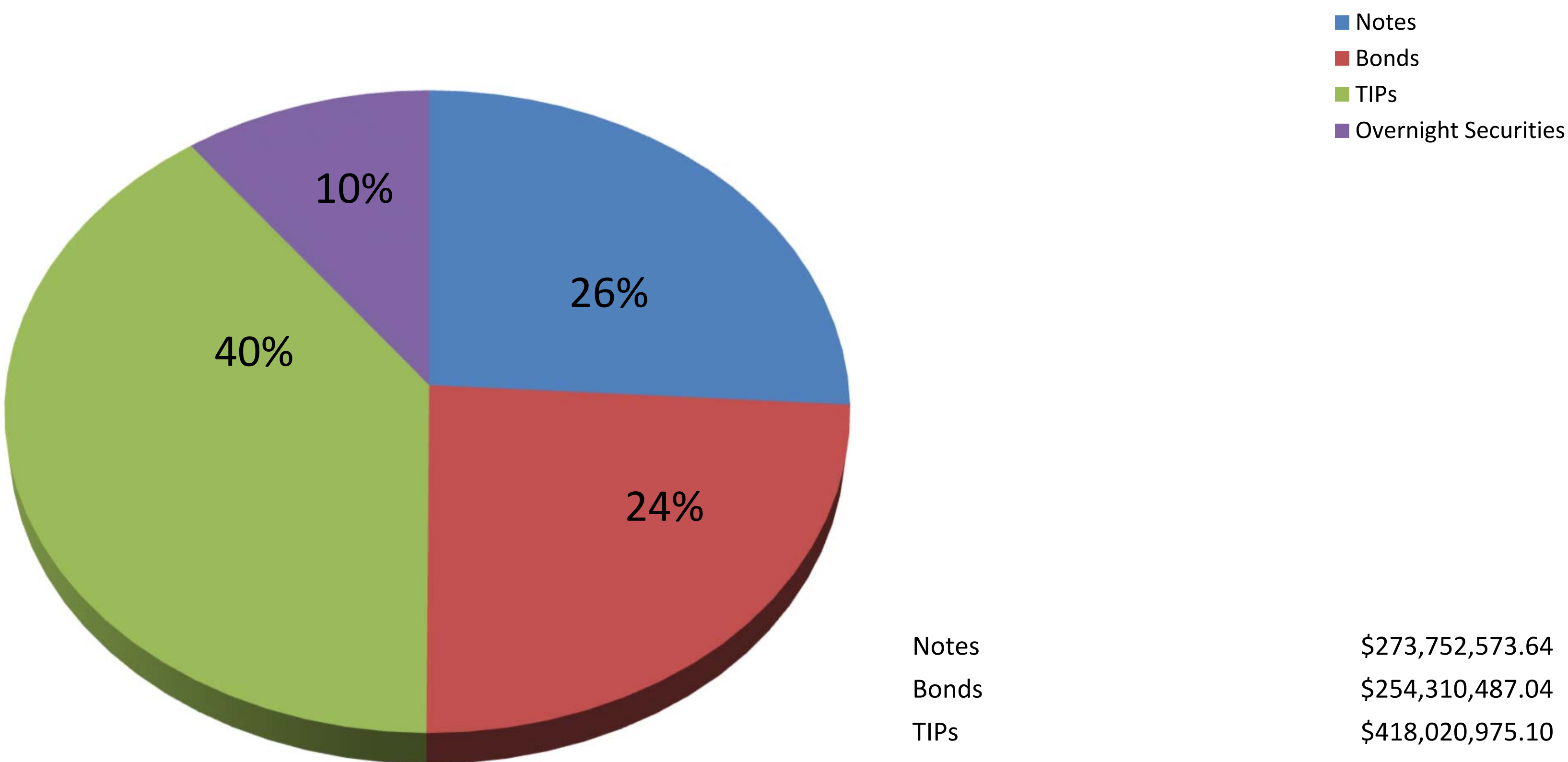
Education Benefits Trust Fund
For the Year Ending September 30, 2019

	(in thousands)
Assets	
Fund Balance with Treasury	$2,157.8
Investments	
Overnight	$236,751.1
Long term	
Par	$790,905.1
Inflation purchased	$32,204.2
Inflation earned	$16,312.3
Premium outstanding	$21,115.2
Discount outstanding	-$1,049.8
Interest receivable	$3,484.1
Total Long Term Investments	$862,971.1
Total Investments	$1,104,203.8
Accounts Receivable, net	$973.9
Total Assets	$1,105,177.7
Liabilities	
Military Retirement and Other Federal Employment Benefits	
Actuarial Liability	$786,690.0
Total Military and Other Federal Employment Benefits	$786,690.0
Accounts Payable and Other Liabilities	$596.9
Total Liabilities	$787,286.9
Net Position	
Cumulative Results of Operations	$317,890.8
Total Liabilities and Net Position	$1,105,177.7

Effective Fund Yields

FY	Yield (%)
2009	1.45
2010	2.78
2011	4.07
2012	2.93
2013	3.24
2014	2.90
2015	2.36
2016	2.60
2017	2.97
2018	3.35
2019	2.72

Education Benefits Portfolio
As Of 05/31/20

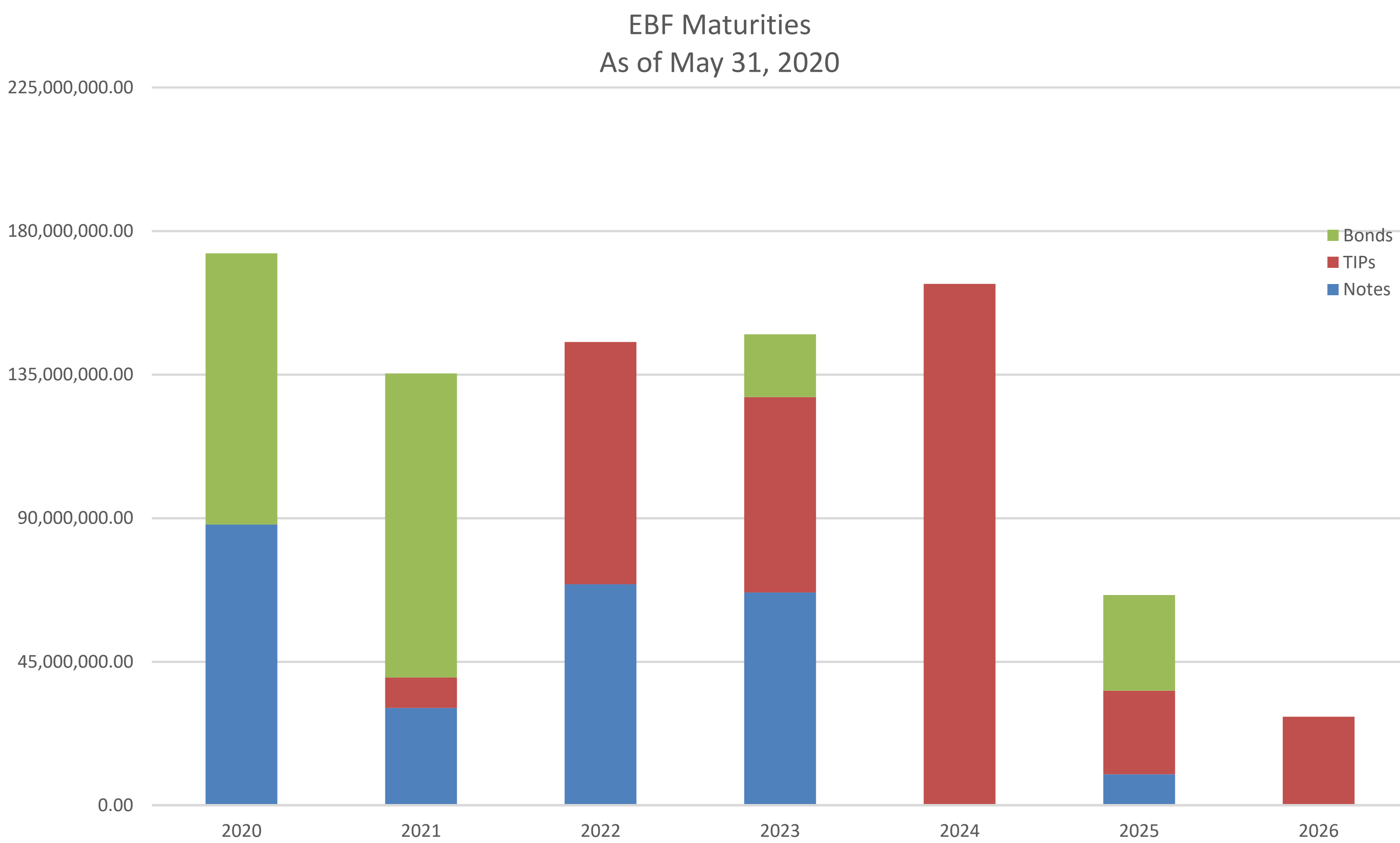


Notes	$273,752,573.64
Bonds	$254,310,487.04
TIPs	$418,020,975.10
Overnight Securities	$108,081,829.40
Total	$1,,054,165,865.18

FUND STATUS

Account Description	Security Description	Shares/Par	Book Value	Fair Market Value
EDUCATION BENEFIT DOD	MK BOND 6.875% 08/15/2025	$30,000,000.00	$34,607,612.03	$ 40,125,000.00
EDUCATION BENEFIT DOD	MK BOND 7.125% 02/15/2023	$19,659,651.19	$22,889,121.42	$ 23,333,548.51
EDUCATION BENEFIT DOD	MK BOND 8.125% 08/15/2021	$95,258,545.88	$103,423,775.14	$104,337,876.03
EDUCATION BENEFIT DOD	MK BOND 8.750% 08/15/2020	$85,000,000.00	$88,025,019.88	$86,514,062.50
	• **TOTAL BONDS**	**$229,918,197.07**	**$248,945,528.47**	**$254,310,487.04**
EDUCATION BENEFIT DOD	MK NOTE 2.750% 02/28/2025	$9,738,025.93	$ 9,984,226.03	$ 10,857,898.91
EDUCATION BENEFIT DOD	MK NOTE 2.750% 08/31/2023	$66,706,481.99	$69,780,378.75	$ 72,188,920.98
EDUCATION BENEFIT DOD	MK NOTE 1.875% 01/31/2022	$69,272,451.02	$70,069,336.69	$ 71,220,738.70
EDUCATION BENEFIT DOD	MK NOTE 1.250% 03/31/2021	$30,503,112.81	$30.443,792.85	$ 30,770,015.05
EDUCATION BENEFIT DOD	MK NOTE 2.625% 11/15/2020	$44,000,000.00	$43,899,281.32	$ 44,495,000.00
EDUCATION BENEFIT DOD	MK NOTE 2.625% 08/15/2020	$44,000,000.00	$44,271,510.73	$ 44,220,000.00
	• **TOTAL NOTES**	**$264,220,071.75**	**$268,448,526.37**	**$273,752,573.64**
EDUCATION BENEFIT DOD	MK TIPS 0.625% 01/15/2026	$27,772,869.71	$30,447,530.81	$ 32,095,052.76
EDUCATION BENEFIT DOD	MK TIPS 2.375% 01/15/2025	$16,405,437.41	$24,897,791.64	$ 25,456,897.47
EDUCATION BENEFIT DOD	MK TIPS 0.250% 01/15/2025	$ 9,767,448.00	$10,590,603.16	$ 11,000,896.23
EDUCATION BENEFIT DOD	MK TIPS 0.125% 07/15/2024	$84,717,357.00	$92,432,467.76	$ 94,688,187.51
EDUCATION BENEFIT DOD	MK TIPS 0.625% 01/15/2024	$78,694,565.08	$87,402,613.59	$ 90,297,333.56
EDUCATION BENEFIT DOD	MK TIPS 0.375% 07/15/2023	$47,066,944.00	$52,202,105.07	$ 53,626,506.16
EDUCATION BENEFIT DOD	MK TIPS 0.125% 01/15/2023	$14,183,455.00	$15,845,734.52	$ 16,025,214.57
EDUCATION BENEFIT DOD	MK TIPS 0.125% 04/15/2022	$29,803,437.00	$31,631,182.03	$ 31,703,163.40
EDUCATION BENEFIT DOD	MK TIPS 0.125% 01/15/2022	$46,145,580.00	$52,433,621.83	$ 52,743,697.54
EDUCATION BENEFIT DOD	MK TIPS 0.125% 04/15/2021	$ 9,594,114.84	$10,379,237.03	$ 10,384,025.90
	• **TOTAL TIPS**	**$364,151,208.04**	**$408,262,887.44**	**$418,020,975.10**
EDUCATION BENEFIT DOD	ONE DAY 0.14% 05/31/2020	$108,081,829.40	$108,082,670.04	$108,081,829.40
	TOTAL PORTFOLIO	**$966,371,306.26**	**$1,033,739,612.32**	**$1,054,165,865.18**

FUND STATUS



2020	2021	2022	2023	2024	2025	2026	Total
173.0	135.4	145.2	147.7	163.3	65.9	27.8	858.3

QUESTIONS

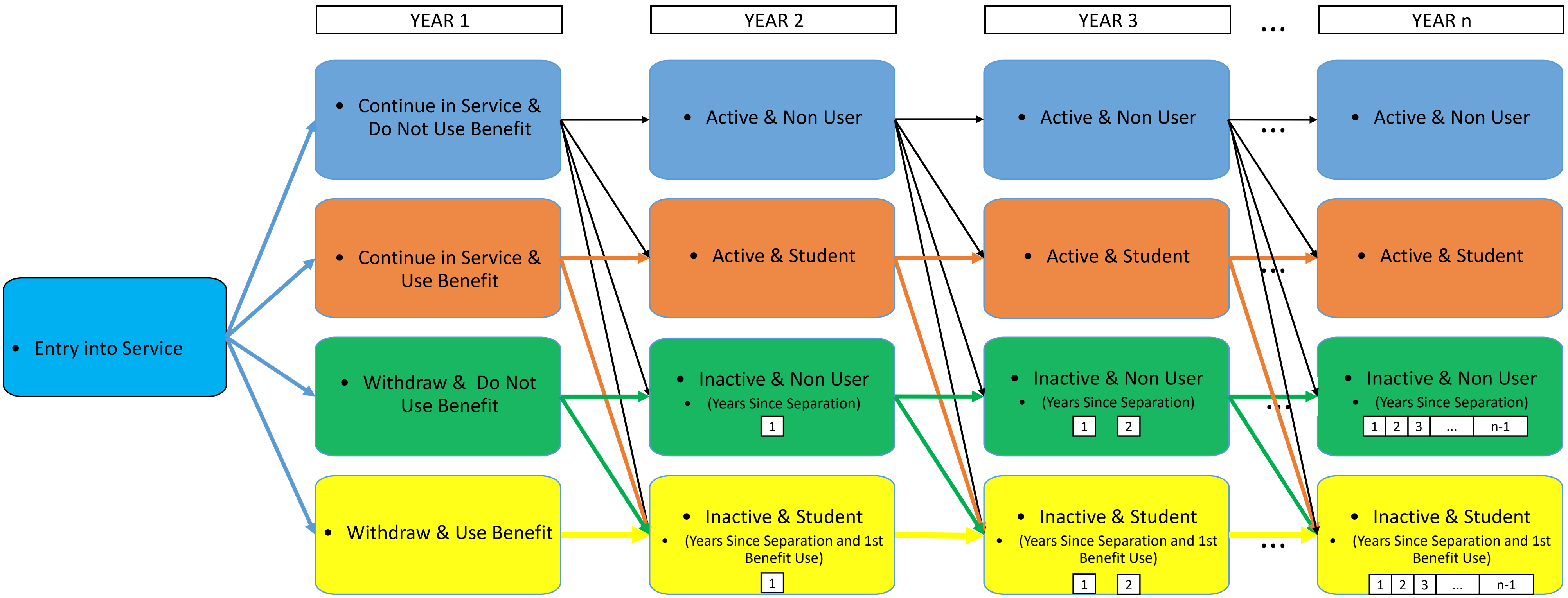
DoD Education Benefits

Program	Funded By	Participants	Eligibility	FY 2020 Benefit	Per Capita Amount	Amortization	Transferability	Dates
Post 9/11 Chapter 33 Basic	VA	Active Duty or Reserve	Active – Serve 3 Years (Full) Serve 90+ days (Partial) Reserve – Serve 90+ Days in Active Duty Status Ends 15 Years after Separation	In State Tuition, Housing & Stipend up to $24,476.79	N/A	None	Serve 10+ Years. Members must apply after 6 years while still in active status	August, 2009 - Present
Montgomery GI Bill Chapter 30 Basic	VA	Active Duty	Enlistment of 3 Years (Full Amount) or Contracted Enlistment Ends 10 Years after Separation	$2,050 Per Month indexed to NCES	N/A	None	None	July, 1985 - Present
Chapter 30 Kicker	DoD Services Contribute to EBF	Active Duty	Offered by DoD at Time of Recruitment. Contract Period of 2-6 years. Corresponds with Chapter 30 or Chapter 33 Basic	$150 - $950 Per month. No indexing	Net Single Premium Paid at Time of Entry. Fund Surplus Offset as Determined by DoD Board of Actuaries	Determined by Board of Actuaries. Unfunded Liability by Service Paid Off in 5 Years	Same as Chapter 33 Basic	July, 1985 – Present (None offered since 2012)

DoD Education Benefits

Program	Funded By	Participants	Eligibility	FY 2020 Benefit	Per Capita Amount	Amortization	Transferability	Dates
Chapter 1606 Basic	DoD Reserve Components Contribute to EBF (In Discussion to move to VA)	Selected Reserves	Agree to Serve 6 Years. Ends After 14 Years of Service or Upon Leaving Reserves	$392 Per Month Indexed by CPI	Net Single Premium Paid at Time of Entry. Fund Surplus Offset as Determined by DoD Board of Actuaries	Determined by DoD Board of Actuaries. Unfunded Liability by Reserve Component Paid Off in 5 Years	Not Currently Offered	July, 1985 – Present
Chapter 1606 Kicker	DoD Reserve Components Contribute to EBF	Selected Reserves	Offered by DoD at Time of Recruitment. Same as Chapter 1606 Basic	$100, $200 & $350 Per Month. Not Indexed	Net Single Premium Paid at Time of Entry.	None	Not Currently Offered	July, 1985 – Present
Chapter 1607	DoD Reserve Components Contribute to EBF	Selected Reserves	Reserves Called to Active Duty for 90 Days or More	40%, 60% or 80% of Chapter 30 Basic Benefit	Net Single Premium Paid at Time of Eligibility.	Determined by Board of Actuaries. Unfunded Liability by Reserve Component Paid Off in 5 Years	None	November, 2004 – November, 2019. Last New Entrant - November, 2015

Education Benefit Usage Model



Each box has a probability of benefit usage and a probability of moving into a different box for the following year.
Benefits are discounted to the time of entry.
Active Duty model continues for 40 years. Reserve model continues for 15 years .

EBF Fund Yield Projection and Current Interest Assumption

FY	Inflation	Real*	Fund Yield	Blue Chip Return on New Invests (Cumulative)**
2020	0.93%	1.35%	2.28%	1.39%
2021	2.05%	0.37%	2.42%	1.73%
2022	2.15%	-0.03%	2.12%	1.99%
2023	2.20%	0.09%	2.29%	2.10%
2024	2.20%	-0.04%	2.16%	2.22%
2025	2.10%	0.45%	2.55%	2.41%
2026	2.10%	0.65%	2.75%	2.70%
2027	2.10%	0.76%	2.86%	2.86%
2028	2.10%	0.81%	2.91%	2.91%
2029	2.10%	0.83%	2.93%	2.93%
10 Yr Avg	2.00%	0.52%	2.53%	2.32%
10 Yr Fund Wgt	1.99%	0.54%	2.53%	2.31%

Current Interest Assumption
3.25%

NC Duration	Liability Duration	Asset Duration
3	3	3

Sensitivity Analysis Interest Assumption	Sensitivity Analysis NC Inc / -Dec	Sensitivity Analysis Liability Inc / -Dec
3.00%	0.63%	0.63%
2.75%	1.26%	1.26%

Notes:

* Real = Fund Yield - Inflation (after 3 mths TIPS inflation lag). For inflation, fund yield, and Blue Chip return calculations, the "X Yr Avg" calculation is geometric and the "X Yr Fund Wgt Avg" is weighted by expected fund size during FY.

** Assumes an amount equal to 25% of expected annual benefit payments is invested in overnights and new bond purchases are invested in 5 yr bonds.

--- Short Term Strategy: Mix of overnights and bills.

--- Portfolio Allocation: 50% conventional / 50% TIPS.

--- Investment Policy: Match cash flows to cash outflows plus a margin. Minimize risks to the funds--all securities are market based Treasury special issues. Hold to maturity policy.

Chapter 1606 / MGIB-SR
Valuation of Education Benefits

Presented before the DoD Board of Actuaries
by Richard Allen (571) 372-1992, Richard.S.Allen40.civ@mail.mil
DoD Office of the Actuary
Summer 2020

Chapter 1606 DMDC and DFAS Comparison of FY 2019 Benefit Payments

FY 2019	DMDC Reporting: Chapter 1606 Basic Benefits	DMDC Reporting: Chapter 1606 Kicker Benefits	DMDC Reporting: Basic & Kicker Combined	DFAS Reporting: Chapter 1606 Basic Benefits	DFAS Reporting: Chapter 1606 Kicker Benefits	DFAS Reporting: Basic & Kicker Combined	DMDC Reports as % of Total: Chapter 1606 Basic Benefits	DMDC Reports as % of Total: Chapter 1606 Kicker Benefits	DMDC Reports as % of Total: Basic & Kicker Combined
Army National Guard	$41,640,235	$9,463,624	$51,103,859	$45,134,508	$12,465,894	$57,600,402	92.3%	75.9%	88.7%
Army Reserve	$16,524,985	$5,820,319	$22,345,304	$17,636,452	$8,594,014	$26,230,466	93.7%	67.7%	85.2%
Navy Reserve	$3,018,976	$112,993	$3,131,969	$3,363,553	$769,125	$4,132,678	89.8%	14.7%	75.8%
Marine Corps Reserve	$6,456,140	$203,493	$6,659,633	$7,934,150	$433,300	$8,367,450	81.4%	47.0%	79.6%
Air National Guard	$11,656,662	$9,847,601	$21,504,263	$12,157,368	$11,910,720	$24,068,088	95.9%	82.7%	89.3%
Air Force Reserve	$1,299,279	$2,875,977	$4,175,256	$1,539,821	$3,800,412	$5,340,233	84.4%	75.7%	78.2%
Coast Guard Reserve	$148,568	$0	$148,568	$186,343	$0	$186,343	79.7%		79.7%
All Components	$80,744,845	$28,324,007	$109,068,852	$87,952,195	$37,973,464	$125,925,659	91.8%	74.6%	86.6%
FY 2018	$78,717,307	$23,144,394	$101,861,701	$93,545,267	$37,863,171	$131,408,438	84.1%	61.1%	77.5%
FY 2017	$78,015,146	$24,357,772	$102,372,919	$104,595,275	$42,551,788	$147,147,062	74.6%	57.2%	69.6%
FY 2016	$82,120,150	$26,243,417	$108,363,567	$108,222,789	$48,617,986	$156,840,775	75.9%	54.0%	69.1%
FY 2015	$81,621,454	$15,339,873	$96,961,328	$109,687,280	$55,417,471	$165,104,751	74.4%	27.7%	58.7%

Chapter 1606 New Entrants

BASIC BENEFIT

		ARNG	USAR	USNR	USMCR	ANG	USAFR	USCGR
2018	DFAS	24,313	18,579	$0 PCA	3,722	2,264	$0 PCA	$0 PCA
2018	DMDC 2018 File	20,625	12,330	2,064	4,429	3,415	1,453	17
2018	DMDC 2019 File	22,358	12,042	3,665	4,407	3,670	1,694	18
2019	DFAS	30,815	18,187	$0 PCA	4,162	7,839	$0 PCA	$0 PCA
2019	DMDC 2019 File	16,871	13,483	1,890	4,540	3,165	1,748	7
2019	Compensation	30,377	18,234	2,652	5,168	3,083	3,998	*Unk
2020	DFAS - Projected	21,844	24,722	0	3,825	429	$0 PCA	$0 PCA
2020	Compensation - Projected	28,501	18,805	2,684	5,085	3,182	3,155	*Unk
2021	Compensation - Projected	28,500	23,087	2,671	5,085	3,148	2,720	*Unk
2022	Compensation - Projected	21,194	15,213	2,671	5,085	3,117	2,799	*Unk

*Use 2019 DMDC Amount

KICKER BENEFIT

		ARNG	USAR	USNR	USMCR	ANG	USAFR	USCGR
2018	DFAS	6,879	1,831	25	363	2,528	600	0
2018	DMDC 2018 File	4,042	2,315	13	1	2,292	721	0
2018	DMDC 2019 File	3,727	1,882	48	2	2,189	758	0
2019	DFAS	18,482	4,762	15	523	95	484	0
2019	DMDC 2019 File	4,042	2,315	13	1	2,292	721	0
2019	Compensation	9,947	4,754	15	232	1,731	503	*Unk
2020	DFAS - Projected	2,155	6,757	23	155	0	0	0
2020	Compensation - Projected	9,000	7,975	38	244	2,355	1,120	*Unk
2021	Compensation - Projected	9,100	8,329	38	271	2,355	1,120	*Unk
2022	Compensation - Projected	6,234	6,061	38	271	2,355	1,120	*Unk

*Use 2019 DMDC Amount

Chapter 1606 Reservists Eligible for Basic Benefits

	As of September 30, 2018	2019
1606 Eligibles who are not 33 Eligible	**197,569**	**192,931**
Army National Guard	109,765	109,172
Army Reserve	44,116	41,182
Navy Reserve	8,526	8,089
Marine Corps Reserve	18,376	18,970
Air National Guard	13,570	12,109
Air Force Reserve	2,791	3,063
Coast Guard Reserve	425	346
1606 Eligibles who are 33 Eligible	**247,383**	**251,142**
Army National Guard	102,095	101,271
Army Reserve	55,057	61,090
Navy Reserve	23,042	22,639
Marine Corps Reserve	7,042	6,735
Air National Guard	36,111	36,685
Air Force Reserve	23,039	21,977
Coast Guard Reserve	997	745
Total 1606 Eligibles	**444,952**	**444,073**
Army National Guard	211,860	210,443
Army Reserve	99,173	102,272
Navy Reserve	31,568	30,728
Marine Corps Reserve	25,418	25,705
Air National Guard	49,681	48,794
Air Force Reserve	25,830	25,040
Coast Guard Reserve	1,422	1,091

Chapter 1606 Reservists Eligible for Kicker Benefits

	As of September 30, 2018	2019
Eligible for a $100 Kicker Benefit	**7,578**	**8,919**
Army National Guard	53	53
Army Reserve	7,525	8,866
Navy Reserve	0	0
Marine Corps Reserve	0	0
Air National Guard	0	0
Air Force Reserve	0	0
Coast Guard Reserve	0	0
Eligible for a $200 Kicker Benefit	**47,477**	**52,478**
Army National Guard	36,093	40,524
Army Reserve	10,986	11,565
Navy Reserve	398	389
Marine Corps Reserve	0	0
Air National Guard	0	0
Air Force Reserve	0	0
Coast Guard Reserve	0	0
Eligible for a $350 Kicker Benefit	**61,815**	**67,128**
Army National Guard	9,584	16,712
Army Reserve	10,539	11,122
Navy Reserve	0	0
Marine Corps Reserve	358	508
Air National Guard	30,059	27,627
Air Force Reserve	11,275	11,159
Coast Guard Reserve	0	0
Total Eligible for a Kicker Benefit	**116,870**	**128,525**
Army National Guard	45,730	57,289
Army Reserve	29,050	31,553
Navy Reserve	398	389
Marine Corps Reserve	358	508
Air National Guard	30,059	27,627
Air Force Reserve	11,275	11,159
Coast Guard Reserve	0	0

FY 2019 Chapter 1606 Fund Activity for Basic and Kicker Combined

(Dollars in Millions)

	Army National Guard	Army Reserve	Navy Reserve	Marine Corps Reserve	Air National Guard	Air Force Reserve	Coast Guard Reserve	Total
Starting Fund (Oct 2018)	$282.6	$137.4	$26.9	$40.6	$80.7	$61.8	$4.0	$634.0
Present Value of Benefits	$134.0	$70.1	$10.3	$20.3	$76.2	$22.6	$0.4	$333.9
Unfunded Liability (Surplus)	($148.6)	($67.3)	($16.6)	($20.3)	($4.5)	($39.2)	($3.6)	($300.1)
Amortization Payments	$0.0	$0.0	$0.0	$0.0	$1.7	$0.0	$0.0	$1.7
Asset Transfer	$0.8	$0.2	$0.1	$0.0	$0.2	$0.1	($0.0)	$1.5
Start+Amortization+Transfer	$283.4	$137.6	$27.0	$40.6	$82.6	$62.0	$4.0	$637.2
PCA Contributions	$113.9	$25.4	$0.0	$6.5	$21.2	$1.6	$0.0	$168.5
Benefit Payments	($57.6)	($26.2)	($4.1)	($8.4)	($24.1)	($5.3)	($0.2)	($125.9)
Net Receipts	$56.3	($0.9)	($4.1)	($1.9)	($2.9)	($3.8)	($0.2)	$42.6
Interest	$8.7	$3.8	$0.7	$1.1	$2.3	$1.6	$0.1	$18.3
Net Rec w/ Int	$64.9	$2.9	($3.4)	($0.8)	($0.6)	($2.1)	($0.1)	$60.9
Ending Fund (Sept 2019)	$348.4	$140.5	$23.6	$39.8	$81.9	$59.9	$3.9	$698.1

(Start +Amortization + Transfers + PCA Contributions + Interest - Benefits Paid)

FY 2019 Chapter 1607 Fund Activity

	Army National Guard	Army Reserve	Navy Reserve	Marine Corps Reserve	Air National Guard	Air Force Reserve	Coast Guard Reserve	Total
Starting Fund (Oct 2018)	$1,724,075	$755,217	$96,440	$115,712	$409,189	$146,568	$3,560	$3,250,760
Present Value of Benefits	$918,958	$368,574	$37,980	$67,050	$206,759	$37,721	$3,559	$1,640,601
Unfunded Liability (Surplus)	($805,117)	($386,643)	($58,460)	($48,661)	($202,430)	($108,847)	($1)	($1,610,159)
Amortization Payments	$0	$0	$0	$0	$0	$0	$0	$0
Asset Transfer	($833,349)	($243,503)	($51,002)	($35,627)	($176,217)	($140,931)	$711	($1,479,918)
Start+Amortization+Transfer	$890,726	$511,714	$45,438	$80,084	$232,972	$5,636	$4,271	$1,770,841
Receipts	$0	$0	$0	$0	$0	$0	$0	$0
Benefit Payments	($774,151)	($235,768)	($24,830)	($41,745)	($120,918)	($33,253)	($4,825)	($1,235,490)
Interest	$14,641	$11,007	$929	$1,662	$4,842	($260)	$56	$32,878
Net Receipts with Interest	($759,510)	($224,762)	($23,901)	($40,083)	($116,076)	($33,513)	($4,769)	($1,202,612)
Ending Fund (Sept 2019)	$131,216	$286,952	$21,538	$40,001	$116,896	($27,876)	($498)	$568,229

(Start +Amortization + Transfers + PCA Contributions + Interest - Benefits Paid)

Chapter 1606 Gain/Loss for Basic and Kicker Combined

(Dollars in Millions)

	Army National Guard	Army Reserve	Navy Reserve	Marine Corps Reserve	Air National Guard	Air Force Reserve	Coast Guard Reserve	Total
Projected September 30, 2019 Assets	$330.7	$144.3	$24.1	$40.2	$86.6	$61.8	$4.0	$691.7
Projected September 30, 2019 PV Benefits	$167.9	$76.9	$10.5	$21.1	$75.2	$21.9	$0.3	$373.9
Projected September 30, 2019 Unfunded Liability	**($162.8)**	**($67.4)**	**($13.5)**	**($19.1)**	**($11.4)**	**($39.9)**	**($3.7)**	**($317.8)**
September 30, 2019 Assets	$348.4	$140.5	$23.6	$39.8	$81.9	$59.9	$3.9	$698.0
September 30, 2019 PV Benefits	$169.1	$70.9	$9.7	$19.2	$71.9	$23.1	$0.3	$364.3
September 30, 2019 Unfunded Liability	**($179.3)**	**($69.6)**	**($13.8)**	**($20.7)**	**($10.0)**	**($36.8)**	**($3.6)**	**($333.7)**
FY 2019 Asset (Gain) Loss	($17.7)	$3.8	$0.5	$0.4	$4.7	$2.0	$0.0	($6.3)
FY 2019 PVB (Gain) Loss	$1.2	($6.0)	($0.8)	($2.0)	($3.3)	$1.1	$0.0	($9.6)
FY 2019 Unfunded PVB (Gain) Loss	**($16.5)**	**($2.2)**	**($0.3)**	**($1.6)**	**$1.4**	**$3.1**	**$0.1**	**($15.9)**
Percentage of Projected Model PVB	-9.8%	-2.8%	-2.8%	-7.4%	1.9%	14.1%	22.9%	-4.3%

<u>(Gain)/Loss Walk for PV Benefits:</u>

	Army National Guard	Army Reserve	Navy Reserve	Marine Corps Reserve	Air National Guard	Air Force Reserve	Coast Guard Reserve	Total
2019 New Entrant Experience ($ Millions)	($13.5)	($5.7)	($1.7)	($0.3)	($12.2)	($0.7)	($0.0)	($34.1)
(LY NC) * (one yr DMDC data - expected) +	-8.0%	-7.4%	-16.5%	-1.4%	-16.2%	-3.1%	-10.1%	-9.1%
(LY-2 NC) * (two yrs DMDC - one yr DMDC)								
Withdrawal Experience and Census Changes[1]	$0.2	($0.2)	$1.1	$0.4	$4.0	$1.2	$0.0	$6.7
	0.1%	-0.2%	10.0%	1.8%	5.3%	5.5%	6.8%	1.8%
Usage Rate Assumption Change	$12.2	($1.1)	($0.2)	($2.3)	$4.0	$0.2	$0.0	$12.8
	7.2%	-1.4%	-2.1%	-10.8%	5.3%	1.0%	12.9%	3.4%
Interest Rate Assumption Change	$2.3	$1.0	$0.1	$0.2	$0.9	$0.4	$0.0	$4.9
(Assumption Change From 3.25% to 2.75%)	1.4%	1.3%	1.0%	1.1%	1.2%	1.7%	0.9%	1.3%
Total	$1.2	($6.0)	($0.8)	($2.0)	($3.3)	$1.1	$0.0	($9.6)
	0.7%	-7.7%	-7.6%	-9.2%	-4.4%	5.1%	10.4%	-2.6%

[1] Captures the difference between this year's liability valued at old assumptions using (1) last year's census vs. (2) this year's census.

<u>(Gain)/Loss Due to Assets:</u>

	Army National Guard	Army Reserve	Navy Reserve	Marine Corps Reserve	Air National Guard	Air Force Reserve	Coast Guard Reserve	Total
Benefit Usage Experience	$1.9	$1.4	$0.2	$0.2	$0.4	$0.3	$0.0	$4.4
	1.1%	1.8%	1.7%	0.8%	0.5%	1.5%	5.9%	1.2%
Contributions	($21.3)	$1.6	$0.2	$0.0	$3.9	$1.3	$0.0	($14.2)
	-12.7%	2.1%	1.9%	0.1%	5.1%	6.1%	0.0%	-3.8%
Interest Earnings[2]	$1.7	$0.7	$0.1	$0.2	$0.4	$0.3	$0.0	$3.5
(Actual Earnings of 2.72% vs Interest Assumption of 3.25%)	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%
Total	($17.7)	$3.8	$0.5	$0.4	$4.7	$2.0	$0.0	($6.3)
	-10.5%	4.9%	4.8%	1.8%	6.3%	9.0%	12.5%	-1.7%

[2] Given in % of Projected Model Assets. All other %s given as % of Projected Model PV Benefits.

Bureau of Labor Statistics Consumer Price Index (CPI-W) & O-Act Projected CPI-W's

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	July - June	July - June CPI Increase	Chapter 1606 Monthly Basic Benefit
2018							**246.2**	**246.3**	**246.6**	**247.0**	**245.9**	**244.8**			
2019	**245.1**	**246.2**	**247.8**	**249.3**	**249.9**	**249.7**	**250.2**	**250.1**	**250.3**	**250.9**	**250.6**	**250.5**	247.1	**2.0%**	$384
2020	**251.4**	**251.9**	**251.4**	**249.5**	**249.5**	249.9	250.3	250.8	251.2	251.6	252.0	252.4	250.5	**1.4%**	$392
2021	252.9	253.3	253.7	254.2	254.6	255.1	255.5	255.9	256.4	256.8	257.3	257.7	252.7	**0.9%**	$397
2022														**2.1%**	$401
2023														**2.2%**	$409
2024														**2.2%**	$418
2025														**2.2%**	$427
2026														**2.1%**	$436
2027														**2.2%**	$445
2028														**2.1%**	$455

Bold indicates actual CPI. Otherwise, O-ACT projection.
Annual CPI = July - June 12 Month Average Divided by Previous July - June 12 Month Average rounded to the nearest tenth of percent.
Chapter 1606 monthly benefit is previous year's benefit increased by annual CPI rounded to the nearest dollar.

Source: Bureau of Labor Statistics, Urban Wage Earners and Clerical Workers CPI through May, 2020
Blue Chip Financial Forecasts, June, 2020 Consumer Price Index Estimates
Estimates are Quarterly Through 2021; Annually Thereafter

Chapter 1606 Projected Fund Activity
Basic & Kicker Combined
(Dollars in Millions)

	Army National Guard	Army Reserve	Navy Reserve	Marine Corps Reserve	Air National Guard	Air Force Reserve	Coast Guard Reserve	Total
FY 2020								
Starting Fund (Oct 19)	$348.4	$140.5	$23.6	$39.8	$81.9	$59.9	$3.9	$698.0
Present Value of Benefits	$169.1	$70.9	$9.7	$19.2	$71.9	$23.1	$0.3	$364.3
Unfunded Liability (Surplus)	($179.3)	($69.6)	($13.8)	($20.7)	($10.0)	($36.8)	($3.6)	($333.7)
Amortization Payments	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0
Asset Transfer	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0
Start+Amortization+Asset Transfer	$348.4	$140.5	$23.6	$39.8	$81.9	$59.9	$3.9	$698.0
PCA Receipts	$70.4	$24.7	$0.8	$5.5	$5.7	$1.8	$0.0	$109.0
Benefit Payments	($53.9)	($21.9)	($3.1)	($7.3)	($19.6)	($3.0)	($0.1)	($108.9)
Net Receipts (exc amort)	$16.5	$2.8	($2.3)	($1.8)	($13.9)	($1.2)	($0.1)	$0.1
Interest	$8.7	$3.5	$0.5	$1.0	$1.8	$1.4	$0.1	$17.1
Net Receipts with Interest	$25.2	$6.3	($1.7)	($0.9)	($12.0)	$0.3	($0.0)	$17.1
Ending Fund (Sept 20)	$373.6	$146.8	$21.8	$39.0	$69.9	$60.1	$3.9	$715.1
(Start +Amortization + PCA Contributions + Interest - Benefits Paid)								
FY 2021								
Starting Fund (Oct 20)	$373.6	$146.8	$21.8	$39.0	$69.9	$60.1	$3.9	$715.1
Present Value of Benefits	$183.5	$81.6	$7.7	$18.5	$57.5	$21.8	$0.2	$370.7
Unfunded Liability (Surplus)	($190.2)	($65.2)	($14.1)	($20.5)	($12.4)	($38.3)	($3.7)	($344.4)
Amortization Payments	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0
Asset Transfer	($2.8)	($0.8)	($0.1)	($0.2)	($0.2)	($0.2)	($0.0)	($4.2)
Start+Amortization+Asset Transfer	$370.9	$146.0	$21.7	$38.8	$69.7	$59.9	$3.9	$710.9
PCA Receipts	$48.4	$22.3	$0.7	$4.8	$13.1	$3.2	$0.0	$92.4
Benefit Payments	($66.2)	($28.0)	($2.9)	($7.3)	($17.0)	($4.8)	($0.1)	($126.2)
Net Receipts (exc amort)	($17.8)	($5.7)	($2.2)	($2.5)	($3.9)	($1.6)	($0.1)	($33.8)
Interest	$10.1	$4.0	$0.6	$1.0	$1.9	$1.6	$0.1	$19.3
Net Receipts with Interest	($7.7)	($1.7)	($1.7)	($1.4)	($2.0)	$0.0	$0.0	($14.5)
Ending Fund (Sept 21)	$363.1	$144.3	$20.1	$37.3	$67.8	$60.0	$3.9	$696.5
(Start +Amortization + PCA Contributions + Interest - Benefits Paid)								
FY 2022								
Starting Fund (Oct 21)	$363.1	$144.3	$20.1	$37.3	$67.8	$60.0	$3.9	$696.5
Present Value of Benefits	$212.5	$91.9	$6.8	$19.1	$56.5	$22.2	$0.2	$409.3
Unfunded Liability (Surplus)	($150.6)	($52.5)	($13.2)	($18.2)	($11.2)	($37.7)	($3.7)	($287.2)

FY 2020 Projected Chapter 1607 Fund Activity

	Army National Guard	Army Reserve	Navy Reserve	Marine Corps Reserve	Air National Guard	Air Force Reserve	Coast Guard Reserve	Total
Starting Fund (Oct 19)	$131,216	$286,952	$21,538	$40,001	$116,896	($27,876)	($498)	$568,229
Present Value of Benefits	$2,875,053	$1,034,764	$104,387	$238,994	$286,542	$191,563	$13,834	$4,745,137
Unfunded Liability (Surplus)	$2,743,837	$747,812	$82,849	$198,992	$169,647	$219,439	$14,331	$4,176,907
Amortization Payments	$0	$0	$0	$0	$0	$0	$0	$0
Asset Transfer	$0	$0	$0	$0	$0	$0	$0	$0
Start+Amortization+Transfer	$131,216	$286,952	$21,538	$40,001	$116,896	($27,876)	($498)	$568,229
Receipts	$0	$0	$0	$0	$0	$0	$0	$0
Benefit Payments	($2,886,501)	($1,038,884)	($104,803)	($239,945)	($287,683)	($192,326)	($13,889)	($4,764,031)
Interest	($4,959)	($352)	($80)	($238)	$126	($549)	($31)	($6,082)
Net Receipts with Interest	($2,891,460)	($1,039,236)	($104,883)	($240,184)	($287,557)	($192,875)	($13,919)	($4,770,114)
Ending Fund (Sept 20)	($2,760,244)	($752,284)	($83,345)	($200,182)	($170,661)	($220,751)	($14,417)	($4,201,885)
Asset Transfer (Oct 20)	$2,760,244	$752,284	$83,345	$200,182	$170,661	$220,751	$14,417	$4,201,885

Chapter 1606 Amortization Payments (Adjustments) for Basic & Kicker Programs

	Army National Guard	Army Reserve	Navy Reserve	Marine Corps Reserve	Air National Guard	Air Force Reserve	Coast Guard Reserve	TOTAL
Amount in Fund on September 30, 2019	$348,389,194	$140,505,036	$23,550,846	$39,839,730	$81,930,632	$59,866,539	$3,939,114	$698,021,090
Present Value of Benefits	$169,113,300	$70,929,784	$9,720,880	$19,179,666	$71,942,588	$23,067,765	$345,700	$364,299,683
Unfunded Liability (Surplus)	($179,275,895)	($69,575,253)	($13,829,966)	($20,660,063)	($9,988,043)	($36,798,774)	($3,593,413)	($333,721,408)
Amortization Payment on October 1, 2019	$0	$0	$0	$0	$0	$0	$0	$0
Net Receipts (Asset Xfers + Contribs - Ben Pmts + Int)	$25,231,876	$6,290,525	($1,722,808)	($871,542)	($12,036,447)	$279,714	($45,520)	$17,125,797
Amount in Fund on September 30, 2020	$373,621,070	$146,795,561	$21,828,037	$38,968,188	$69,894,184	$60,146,253	$3,893,593	$715,146,887
Present Value of Benefits	$183,461,557	$81,564,736	$7,689,449	$18,469,328	$57,464,452	$21,821,357	$230,235	$370,701,113
Unfunded Liability (Surplus)	($190,159,513)	($65,230,826)	($14,138,589)	($20,498,860)	($12,429,733)	($38,324,896)	($3,663,358)	($344,445,775)
Amortization Payment on October 1, 2020	$0	$0	$0	$0	$0	$0	$0	$0
Net Receipts (Asset Xfers + Contribs - Ben Pmts + Int)	($7,719,938)	($1,719,487)	($1,663,776)	($1,427,830)	($1,970,744)	$29,045	$15,290	($14,457,440)
Amount in Fund on September 30, 2021	$363,140,888	$144,323,790	$20,080,917	$37,340,175	$67,752,779	$59,954,546	$3,894,466	$696,487,563
Present Value of Benefits	$212,535,453	$91,854,817	$6,842,387	$19,148,188	$56,520,016	$22,239,273	$160,594	$409,300,727
Unfunded Liability (Surplus)	($150,605,436)	($52,468,974)	($13,238,531)	($18,191,987)	($11,232,763)	($37,715,274)	($3,733,872)	($287,186,836)
Amortization Payment on Oct 1, 2021	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**
Adjustment to FY 2022 Normal Costs	**($32,175,697)**	**($11,209,594)**	**($2,828,311)**	**($3,886,579)**	**($2,399,794)**	**($8,057,579)**	**($797,713)**	**($61,355,267)**

Note: Surpluses are amortized over 5 years and deficits are amortized over 5 yrs. The interest rate is assumed to be 2.75%

Chapter 1606 Normal Cost Offsets

	Army National Guard	Army Reserve	Navy Reserve	Marine Corps Reserve	Air National Guard	Air Force Reserve	Coast Guard Reserve
Projected Basic Normal Cost Contributions Before Offset	$45,885,010	$18,711,990	$1,864,358	$6,849,495	$7,876,659	$1,449,882	$15,743
Total Amount to be Offset	$32,175,697	$11,209,594	$2,828,311	$3,886,579	$2,399,794	$8,057,579	$797,713
% of Normal Costs Being Offset	70.1%	59.9%	>100%	56.7%	30.5%	>100%	>100%
*Projected Model Entrants	21,194	15,213	2,671	5,085	3,117	2,799	7
Offset Per New Entrant for FY 2022	$1,518	$737	$698	$764	$770	$518	$2,249
Offset to Normal Cost	Partial Offset	Partial Offset	Full Offset	Partial Offset	Partial Offset	Full Offset	Full Offset

*From DoD Office of Compensation

Chapter 1606 Per Capita Contribution Amounts

Item	Fiscal Year	Army National Guard Basic	Army Reserve Basic	Navy Reserve Basic	Marine Corps Reserve Basic	Air National Guard Basic	Air Force Reserve Basic	Coast Guard Reserve Basic
Assumed Benefit	2021	$422	$423	$426	$424	$420	$423	$423
	2022	$422	$422	$426	$423	$419	$423	$421
% Benefit Used	2021	13.4%	9.1%	5.3%	11.1%	18.2%	4.3%	11.1%
	2022	15.2%	8.6%	4.9%	9.5%	17.7%	3.6%	15.8%
Discount Factor	2021	0.929	0.924	0.915	0.923	0.937	0.925	0.926
	2022	0.938	0.936	0.926	0.932	0.945	0.935	0.939
Normal Cost	2021	$1,895	$1,278	$745	$1,566	$2,569	$603	$1,564
	2022	$2,165	$1,230	$698	$1,347	$2,527	$518	$2,249
Normal Cost Offset	2021	$1,269	$702	$519	$804	$588	$603	$1,564
	2022	$1,518	$737	$698	$764	$770	$518	$2,249
Per Capita Amount	**2021**	**$626**	**$576**	**$226**	**$762**	**$1,981**	**$0**	**$0**
	2022	**$647**	**$493**	**$0**	**$583**	**$1,757**	**$0**	**$0**

Normal Cost = Assumed Benefit X % Benefit Used X Discount Factor X 36 Months
Per Capita Amount = Normal Cost - Offset

Chapter 1606 Per Capita Contribution Amounts

Item	Fiscal Year	Army National Guard $100 Kicker	Army Reserve $100 Kicker	Navy Reserve $100 Kicker	Marine Corps Reserve $100 Kicker	Air National Guard $100 Kicker	Air Force Reserve $100 Kicker	Coast Guard Reserve $100 Kicker
Assumed	2021	$100	$100	$100	$100	$100	$100	$100
Benefit	2022	$100	$100	$100	$100	$100	$100	$100
% Benefit	2021	16.6%	18.2%	31.7%	29.6%	25.9%	25.8%	19.5%
Used	2022	16.4%	17.0%	31.7%	27.4%	25.7%	26.0%	18.2%
Discount	2021	0.803	0.825	0.910	0.916	0.808	0.808	0.835
Factor	2022	0.821	0.841	0.920	0.925	0.824	0.830	0.850
Normal	2021	$481	$540	$1,038	$977	$755	$750	$588
Cost	2022	$486	$514	$1,050	$912	$764	$776	$558
Normal Cost	2021	$0	$0	$0	$0	$0	$0	$0
Offset	2022	$0	$0	$0	$0	$0	$0	$0
Per Capita	**2021**	**$481**	**$540**	**$1,038**	**$977**	**$755**	**$750**	**$588**
Amount	**2022**	**$486**	**$514**	**$1,050**	**$912**	**$764**	**$776**	**$558**

Normal Cost = Assumed Benefit X % Benefit Used X Discount Factor X 36 Months
Per Capita Amount = Normal Cost - Offset
A boxed variable means that this kicker amount is currently offered by the component.

Chapter 1606 Per Capita Contribution Amounts

Item	Fiscal Year	Army National Guard $200 Kicker	Army Reserve $200 Kicker	Navy Reserve $200 Kicker	Marine Corps Reserve $200 Kicker	Air National Guard $200 Kicker	Air Force Reserve $200 Kicker	Coast Guard Reserve $200 Kicker
Assumed	2021	$200	$200	$200	$200	$200	$200	$200
Benefit	2022	$200	$200	$200	$200	$200	$200	$200
% Benefit	2021	17.0%	20.1%	30.4%	24.6%	26.6%	26.3%	23.5%
Used	2022	16.7%	18.9%	30.5%	23.2%	26.2%	26.4%	23.0%
Discount	2021	0.807	0.829	0.907	0.910	0.811	0.811	0.868
Factor	2022	0.823	0.840	0.916	0.919	0.827	0.832	0.879
Normal	2021	$987	$1,202	$1,986	$1,611	$1,551	$1,536	$1,471
Cost	2022	$991	$1,141	$2,010	$1,536	$1,561	$1,584	$1,457
Normal Cost	2021	$0	$0	$0	$0	$0	$0	$0
Offset	2022	$0	$0	$0	$0	$0	$0	$0
Per Capita	**2021**	**$987**	**$1,202**	**$1,986**	**$1,611**	**$1,551**	**$1,536**	**$1,471**
Amount	**2022**	**$991**	**$1,141**	**$2,010**	**$1,536**	**$1,561**	**$1,584**	**$1,457**

Normal Cost = Assumed Benefit X % Benefit Used X Discount Factor X 36 Months
Per Capita Amount = Normal Cost - Offset
A boxed variable means that this kicker amount is currently offered by the component.

Chapter 1606 Per Capita Contribution Amounts

Item	Fiscal Year	Army National Guard $350 Kicker	Army Reserve $350 Kicker	Navy Reserve $350 Kicker	Marine Corps Reserve $350 Kicker	Air National Guard $350 Kicker	Air Force Reserve $350 Kicker	Coast Guard Reserve $350 Kicker
Assumed Benefit	2021	$350	$350	$350	$350	$350	$350	$350
	2022	$350	$350	$350	$350	$350	$350	$350
% Benefit Used	2021	30.3%	21.8%	37.1%	29.9%	28.4%	27.5%	30.2%
	2022	30.0%	20.6%	35.9%	27.3%	27.6%	27.4%	29.5%
Discount Factor	2021	0.878	0.826	0.911	0.915	0.820	0.818	0.871
	2022	0.884	0.837	0.919	0.923	0.833	0.837	0.880
Normal Cost	2021	$3,353	$2,265	$4,265	$3,445	$2,932	$2,829	$3,313
	2022	$3,344	$2,172	$4,163	$3,175	$2,901	$2,887	$3,271
Normal Cost Offset	2021	$0	$0	$0	$0	$0	$0	$0
	2022	$0	$0	$0	$0	$0	$0	$0
Per Capita Amount	**2021**	**$3,353**	**$2,265**	**$4,265**	**$3,445**	**$2,932**	**$2,829**	**$3,313**
	2022	**$3,344**	**$2,172**	**$4,163**	**$3,175**	**$2,901**	**$2,887**	**$3,271**

Normal Cost = Assumed Benefit X % Benefit Used X Discount Factor X 36 Months
Per Capita Amount = Normal Cost - Offset
A boxed variable means that this kicker amount is currently offered by the component.

Chapter 1606 Projections

Outlays

Fiscal Year	Army Guard	Army Reserve	Navy Reserve	Marine Reserve	Air National Guard	Air Force Reserve	Coast Guard Reserve	Total
2020	$53.9	$21.9	$3.1	$7.3	$19.6	$3.0	$0.1	$108.9
2021	$66.2	$28.0	$2.9	$7.3	$17.0	$4.8	$0.1	$126.2
2022	$72.3	$29.5	$2.5	$7.4	$15.5	$4.6	$0.1	$131.9
2023	$73.2	$28.1	$2.4	$7.8	$15.1	$4.7	$0.0	$131.2
2024	$81.4	$26.8	$2.3	$8.1	$15.2	$4.8	$0.0	$138.6
2025	$90.1	$25.9	$2.3	$8.5	$15.4	$4.9	$0.0	$147.1

Fund Balance at End of Year

Fiscal Year	Army Guard	Army Reserve	Navy Reserve	Marine Reserve	Air National Guard	Air Force Reserve	Coast Guard Reserve	Total
2019	$348.4	$140.5	$23.6	$39.8	$81.9	$59.9	$3.9	$698.0
2020	$373.6	$146.8	$21.8	$39.0	$69.9	$60.1	$3.9	$715.1
2021	$363.1	$144.3	$20.1	$37.3	$67.8	$60.0	$3.9	$696.5
2022	$335.0	$132.8	$18.2	$34.7	$66.5	$60.2	$3.9	$651.3
2023	$340.0	$125.0	$16.4	$33.6	$66.8	$60.4	$4.0	$646.2
2024	$355.1	$121.2	$15.5	$33.3	$67.9	$60.5	$4.1	$657.5
2025	$376.7	$120.4	$15.2	$33.4	$69.6	$60.4	$4.2	$679.9

Unfunded Liability (Surplus) at End of Year

Fiscal Year	Army Guard	Army Reserve	Navy Reserve	Marine Reserve	Air National Guard	Air Force Reserve	Coast Guard Reserve	Total
2019	($179.3)	($69.6)	($13.8)	($20.7)	($10.0)	($36.8)	($3.6)	($333.7)
2020	($190.2)	($65.2)	($14.1)	($20.5)	($12.4)	($38.3)	($3.7)	($344.4)
2021	($150.6)	($52.5)	($13.2)	($18.2)	($11.2)	($37.7)	($3.7)	($287.2)
2022	($89.0)	($31.0)	($8.8)	($10.8)	($6.6)	($29.0)	($3.0)	($178.3)
2023	($52.6)	($18.3)	($5.2)	($6.4)	($3.9)	($21.9)	($2.4)	($110.8)
2024	($31.1)	($10.8)	($3.1)	($3.8)	($2.3)	($16.1)	($1.9)	($69.2)
2025	($18.4)	($6.4)	($1.8)	($2.2)	($1.4)	($11.4)	($1.5)	($43.2)

Chapter 1606 Projections

Income From Per Capita Amount Contributions

Fiscal Year	Army Guard	Army Reserve	Navy Reserve	Marine Reserve	Air National Guard	Air Force Reserve	Coast Guard Reserve	Total
2020	$70.4	$24.7	$0.8	$5.5	$5.7	$1.8	$0.0	$109.0
2021	$48.4	$22.3	$0.7	$4.8	$13.1	$3.2	$0.0	$92.4
2022	$34.6	$14.1	$0.1	$3.8	$12.3	$3.2	$0.0	$68.1
2023	$68.9	$16.8	$0.1	$5.7	$13.5	$3.2	$0.0	$108.3
2024	$86.8	$19.6	$1.0	$6.9	$14.4	$3.2	$0.0	$131.9
2025	$86.8	$19.6	$1.0	$6.9	$14.4	$3.2	$0.0	$131.9

Amortization Payments (Per Capita Adjustments)

Fiscal Year	Army Guard	Army Reserve	Navy Reserve	Marine Reserve	Air National Guard	Air Force Reserve	Coast Guard Reserve	Total
2020	($23.6)	($16.6)	($0.9)	($2.9)	($1.2)	($2.7)	($0.0)	($47.9)
2021	($36.2)	($16.2)	($1.4)	($4.1)	($1.9)	($1.6)	($0.0)	($61.4)
2022	($32.2)	($11.2)	($2.8)	($3.9)	($2.4)	($8.1)	($0.8)	($61.4)
2023	($19.0)	($6.6)	($1.9)	($2.3)	($1.4)	($6.2)	($0.6)	($38.1)
2024	($11.2)	($3.9)	($1.1)	($1.4)	($0.8)	($4.7)	($0.5)	($23.7)
2025	($6.6)	($2.3)	($0.7)	($0.8)	($0.5)	($3.4)	($0.4)	($14.8)

Interest Earned

Fiscal Year	Army Guard	Army Reserve	Navy Reserve	Marine Reserve	Air National Guard	Air Force Reserve	Coast Guard Reserve	Total
2020	$8.7	$3.5	$0.5	$1.0	$1.8	$1.4	$0.1	$17.1
2021	$10.1	$4.0	$0.6	$1.0	$1.9	$1.6	$0.1	$19.3
2022	$9.6	$3.8	$0.5	$1.0	$1.9	$1.6	$0.1	$18.5
2023	$9.3	$3.5	$0.5	$0.9	$1.8	$1.6	$0.1	$17.9
2024	$9.6	$3.4	$0.4	$0.9	$1.9	$1.6	$0.1	$18.0
2025	$10.1	$3.3	$0.4	$0.9	$1.9	$1.6	$0.1	$18.5

Chapter 1606 Basic & Kicker Contributions to the Fund

(Dollars in Millions)

Fiscal Year	Army Nat'l Guard	Army Reserve	Navy Reserve	Marines Reserve	Air Nat'l Guard	Air Force Reserve	Coast Guard Reserve	All Components
1985	$2.7	$3.4	$2.5	$3.3	$1.1	$0.5	$0.0	$13.6
1986	$64.4	$23.2	$11.0	$4.4	$7.9	$6.5	$0.0	$117.4
1987	$78.0	$34.5	$16.7	$6.2	$20.1	$12.5	$0.0	$167.8
1988	$35.5	$27.1	$13.8	$6.2	$8.9	$8.7	$0.0	$100.3
1989	$29.5	$12.3	$10.0	$5.5	$8.6	$8.9	$0.0	$74.8
1990	$31.4	$33.0	$9.6	$5.1	$11.6	$9.9	$0.0	$100.6
1991	$30.8	$18.7	$2.2	$6.5	$10.3	$10.6	$0.0	$79.2
1992	$0.0	$20.2	$2.6	$7.9	$6.6	$1.7	$0.0	$39.1
1993	$0.0	$14.2	$4.8	$9.6	-$2.1	$1.2	$0.0	$27.7
1994	$11.0	$10.8	$4.8	$5.7	$1.1	$2.9	$0.0	$36.2
1995	$16.0	$12.6	$2.9	$8.3	$1.7	$2.5	$0.0	$43.9
1996	$28.2	$21.6	$4.5	$9.8	$10.2	$4.0	$0.0	$78.3
1997	$35.7	$25.7	$5.9	$9.8	$10.3	$3.9	$0.0	$91.3
1998	$44.3	$20.3	$2.7	$10.9	$10.0	$0.5	$0.0	$88.6
1999	$39.7	$31.9	$2.5	$12.6	$9.7	$0.0	$0.0	$96.3
2000	$43.3	$32.7	$3.0	$17.0	$13.2	$2.0	$0.0	$111.2
2001	$41.9	$41.0	$4.1	$16.1	$13.4	$3.6	$0.0	$120.0
2002	$50.4	$53.6	$1.2	$13.8	$18.0	$9.9	$0.0	$146.9
2003	$84.6	$48.7	$0.4	$13.5	$27.0	$5.5	$0.0	$179.6
2004	$83.8	$32.1	$0.3	$13.4	$35.1	$5.4	$0.0	$170.1
2005	$93.9	$43.3	$1.0	$16.5	$36.5	$5.0	$0.0	$196.2
2006	$138.0	$49.5	$9.7	$20.9	$43.8	$8.1	$0.0	$269.9
2007	$129.7	$39.3	$4.0	$12.8	$45.6	$7.8	$0.9	$240.0
2008	$123.8	$72.9	$5.8	$9.3	$46.6	$7.5	$0.9	$266.8
2009	$113.7	$63.0	$4.4	$10.5	$43.3	$5.4	$0.9	$241.2
2010	$114.8	$54.1	$3.8	$18.1	$38.2	$13.6	$0.8	$243.4
2011	$62.6	$29.3	$2.3	$8.2	$31.3	$11.4	$1.6	$146.8
2012	$28.8	$22.8	$1.5	$6.6	$28.4	$14.6	$0.4	$103.1
2013	$49.3	$19.1	$0.7	$4.7	$29.9	$12.2	$0.0	$115.9
2014	$14.2	$6.7	$0.4	$1.2	$16.0	$3.4	$0.4	$42.2
2015	$13.0	$9.9	$0.0	$0.6	$21.3	$3.7	$0.0	$48.7
2016	$13.4	$8.9	$0.0	$0.4	$11.0	$2.4	$0.0	$36.1
2017	$1.3	$5.4	$0.2	$0.8	$10.3	$1.5	$0.0	$19.6
2018	$66.3	$32.4	$0.1	$3.9	$20.8	$2.9	$0.0	$126.3
2019	$113.9	$25.4	$0.0	$6.5	$22.9	$1.6	$0.0	$170.2
Total	$1,827.8	$999.4	$139.4	$306.7	$668.4	$201.7	$5.9	$4,149.3

Source: DFAS Education Benefits Fund Trial Balance (5420)

Chapter 1606 Basic & Kicker Benefits Paid

(Dollars in Millions)

Fiscal Year	Army Nat'l Guard	Army Reserve	Navy Reserve	Marines Reserve	Air Nat'l Guard	Air Force Reserve	Coast Guard Reserve	All Components
1985	$0.1	$0.1	$0.0	$0.0	$0.0	$0.0	$0.0	$0.2
1986	$9.8	$6.3	$1.8	$0.6	$3.7	$1.9	$0.0	$24.0
1987	$18.8	$10.9	$4.3	$2.2	$6.2	$2.8	$0.0	$45.2
1988	$25.9	$15.8	$6.7	$4.5	$7.6	$3.7	$0.0	$64.2
1989	$30.8	$20.6	$8.5	$6.4	$7.5	$4.3	$0.0	$78.1
1990	$32.0	$22.6	$9.3	$7.6	$10.5	$5.3	$0.0	$87.3
1991	$33.9	$19.5	$8.0	$5.3	$7.4	$4.2	$0.0	$78.3
1992	$39.6	$26.0	$8.6	$10.0	$8.6	$5.6	$0.0	$98.4
1993	$38.6	$26.8	$8.1	$10.3	$9.4	$5.8	$0.0	$99.0
1994	$45.7	$30.9	$9.5	$12.0	$11.3	$6.6	$0.0	$115.9
1995	$42.0	$28.0	$8.7	$11.0	$10.3	$6.2	$0.0	$106.2
1996	$37.8	$24.1	$6.8	$10.4	$9.7	$5.6	$0.0	$94.4
1997	$34.7	$22.0	$5.5	$10.1	$8.9	$4.6	$0.0	$85.9
1998	$36.1	$21.3	$5.0	$10.4	$9.0	$4.2	$0.0	$86.0
1999	$41.9	$24.6	$4.7	$12.1	$10.4	$4.4	$0.0	$98.1
2000	$44.5	$27.0	$5.4	$13.1	$14.3	$4.8	$0.0	$109.1
2001	$56.7	$31.4	$5.2	$15.4	$19.8	$6.6	$0.0	$135.0
2002	$64.7	$36.0	$4.5	$14.1	$23.1	$7.4	$0.0	$149.9
2003	$76.2	$38.5	$5.4	$10.9	$29.8	$9.2	$0.0	$170.1
2004	$73.5	$34.1	$6.3	$13.6	$37.8	$11.7	$0.0	$176.9
2005	$72.2	$41.2	$6.1	$11.7	$39.8	$14.3	$0.0	$185.2
2006	$57.3	$29.5	$4.9	$6.9	$33.8	$14.1	$0.0	$146.6
2007	$38.9	$18.7	$3.9	$5.3	$24.1	$11.0	$0.7	$102.6
2008	$53.3	$23.7	$4.1	$7.0	$29.2	$9.4	$0.8	$127.6
2009	$66.7	$28.4	$5.0	$7.0	$27.3	$9.0	$0.8	$144.2
2010	$87.4	$42.7	$5.1	$6.7	$28.9	$8.8	$0.6	$180.2
2011	$89.7	$49.1	$4.5	$6.7	$28.7	$8.1	$0.4	$187.3
2012	$84.5	$50.0	$4.3	$6.2	$27.5	$8.7	$0.3	$181.5
2013	$79.8	$49.5	$4.5	$7.4	$25.9	$9.1	$0.3	$176.6
2014	$77.2	$45.5	$4.9	$8.3	$24.7	$9.8	$0.4	$170.9
2015	$75.4	$40.6	$5.2	$9.3	$24.5	$9.6	$0.5	$165.1
2016	$72.8	$34.9	$5.1	$9.6	$25.6	$8.5	$0.4	$156.8
2017	$67.8	$32.1	$4.9	$9.6	$25.4	$7.0	$0.3	$147.1
2018	$59.8	$27.5	$4.5	$9.2	$24.2	$6.0	$0.2	$131.4
2019	$57.6	$26.2	$4.1	$8.4	$24.1	$5.3	$0.2	$125.9
Total	$1,823.6	$1,006.0	$193.6	$299.1	$659.0	$243.7	$6.2	$4,231.1

Source: DFAS Education Benefits Fund Trial Balance (6403)

Chapter 30 & 33 Active Duty Valuation of Education Benefits

Presented before the DoD Board of Actuaries
by Richard Allen (571) 372-1992, Richard.S.Allen40.civ@mail.mil
DoD Office of the Actuary
Summer 2020

DMDC and DFAS Comparison of FY 2019 Benefit Payments

	Chapter 30 Kicker Used With			Chapter 30 Kicker Used With				
Service	Chapter 30 Basic **DMDC** Reports	Chapter 33 Basic **DMDC** Reports	Ch 30 or 33 Basic **DMDC** Reports	Chapter 30 Basic **DFAS** Reports	Chapter 33 Basic **DFAS** Reports	Ch 30 or 33 Basic **DFAS** Reports	DMDC Reports as % of Total	Kicker Used With Chapter 30 Basic as % of Total **DFAS** Reports
Army	$2,275,027	$41,841,826	$44,116,853	$3,434,968	$46,954,406	$50,389,374	87.6%	6.8%
Navy	$307,022	$9,328,339	$9,635,361	$516,647	$10,789,016	$11,305,663	85.2%	4.6%
Marine Corps	$378,428	$6,820,778	$7,199,206	$584,008	$7,975,185	$8,559,192	84.1%	6.8%
Coast Guard	$0	$7,410	$7,410	$6,994	$70,485	$77,479	9.6%	9.0%
Unknown	$0	$0	$0	$0	$196,904	$196,904	0.0%	0.0%
Total	$2,960,476	$57,998,354	$60,958,830	$4,542,617	$65,985,996	$70,528,613	86.4%	6.4%
FY 2018	$7,580,002	$67,664,339	$75,244,341	$5,874,669	$80,086,775	$85,961,445	87.5%	6.8%
FY 2017	$7,746,055	$83,080,267	$90,826,322	$7,925,653	$93,069,138	$100,994,791	89.9%	7.8%
FY 2016	$16,566,886	$95,900,249	$112,467,135	$10,603,078	$106,839,563	$117,442,641	95.8%	9.0%
FY 2015	$18,828,096	$0	$18,828,096	$13,975,036	$113,042,727	$127,017,763	14.8%	11.0%

FY 2019 Active Duty Kicker Benefit Usage (DMDC)

Benefit Used With	Users	Kicker $$	Percent of Total ($)
Chapter 30	1,622	$2,960,476	4.9%
Chapter 33 Member	22,702	$52,189,491	85.6%
Chapter 33 Spouse	1,490	$3,367,458	5.5%
Chapter 33 Child	1,341	$2,441,405	4.0%
Total - Family	27,154	$60,958,830	

Kicker Benefit Distribution

	DMDC	[1]DFAS/Hines
Benefit Used With		
Chapter 30	4.9%	6.4%
Chapter 33	95.1%	93.6%
Chapter 33		
Member	90.0%	80.5%
Dependent	10.0%	19.5%
Dependent		
Spouse	58.0%	16.4%
Child	42.0%	83.6%
Total Benefit to;		
Member	90.5%	81.8%
Spouse	5.5%	3.0%
Child	4.0%	15.2%

[1]The Chapter 30/Chapter 33 split is from the DFAS Trial Balance. The Member/ Dependent and Spouse/Child splits are the basic benefit proportions from Hines.

Per Capita Contributions Added to the Fund by Fiscal Year

(Dollars in Millions)

Fiscal Year	Army	Navy	Marine Corps	Coast Guard	Total - Active
1985	$52.0	$0.0	$0.0	$0.000	$52.0
1986	$114.8	$0.0	$0.0	$0.000	$114.8
1987	$74.3	$8.3	$0.0	$0.000	$82.6
1988	$36.3	$4.9	$0.0	$0.000	$41.2
1989	$54.4	$0.1	$0.0	$0.000	$54.5
1990	-$2.4	$2.3	$0.0	$0.000	-$0.2
1991	$0.0	$1.1	$0.0	$0.000	$1.1
1992	$0.0	$2.2	$0.0	$0.000	$2.2
1993	$7.0	$2.3	$0.8	$0.000	$10.1
1994	$25.2	$5.4	$1.8	$0.000	$32.5
1995	$31.0	$19.9	$2.2	$0.000	$53.1
1996	$39.5	$12.0	$2.9	$0.000	$54.4
1997	$35.5	$17.7	$4.2	$0.000	$57.4
1998	$41.6	$24.2	$4.5	$0.000	$70.3
1999	$51.8	$31.7	$17.7	$0.000	$101.2
2000	$74.9	$20.3	$17.4	$0.000	$112.6
2001	$76.6	$32.5	$19.6	$0.000	$128.7
2002	$55.4	$23.7	$12.7	$0.000	$91.7
2003	$20.7	$5.2	$7.9	$0.000	$33.9
2004	$10.5	$5.7	$5.9	$0.005	$22.2
2005	$46.4	$6.6	$6.1	$0.000	$59.1
2006	$35.0	$1.8	$8.6	$0.000	$45.4
2007	$44.0	$4.0	$17.9	$0.000	$65.8
2008	$80.7	$6.2	$10.5	$0.000	$97.3
2009	$84.5	$5.7	$10.8	$0.000	$101.0
2010	$127.3	$5.3	$0.9	$0.000	$133.4
2011	$6.0	$0.1	$7.5	$0.000	$13.6
2012	$1.6	$0.0	$0.0	$0.000	$1.6
2013	$0.0	$0.0	$0.0	$0.000	$0.0
2014	$0.0	$0.0	$0.0	$0.000	$0.0
2015	$0.0	$0.0	$0.0	$0.000	$0.0
2016	$0.0	$0.0	$0.0	$0.000	$0.0
2017	$0.0	$0.0	$0.0	$0.000	$0.0
2018	$0.0	$0.0	$0.0	$0.000	$0.0
2019	$0.0	$0.0	$0.0	$0.000	$0.0
Total	$1,224.6	$249.2	$159.8	$0.005	$1,633.5

Benefits Paid by Fiscal Year

(Dollars in Millions)

Fiscal Year	Army	Navy	Marine Corps	Coast Guard	Total - Active
1985	$0.0	$0.0	$0.0	$0.000	$0.0
1986	$0.0	$0.0	$0.0	$0.000	$0.0
1987	$0.0	$0.0	$0.0	$0.000	$0.0
1988	$3.8	$0.1	$0.0	$0.000	$3.9
1989	$16.6	$0.2	$0.0	$0.000	$16.8
1990	$40.0	$2.7	$0.0	$0.000	$42.7
1991	$53.5	$4.5	$0.0	$0.000	$57.9
1992	$67.9	$4.0	$0.0	$0.000	$71.9
1993	$77.3	$3.3	$0.0	$0.000	$80.6
1994	$77.6	$2.2	$0.0	$0.000	$79.7
1995	$73.5	$2.7	$0.0	$0.000	$76.3
1996	$69.6	$3.7	$0.0	$0.000	$73.4
1997	$69.3	$5.1	$0.1	$0.000	$74.5
1998	$65.8	$9.3	$0.7	$0.000	$75.8
1999	$60.2	$13.6	$1.5	$0.000	$75.3
2000	$54.0	$15.0	$2.4	$0.000	$71.4
2001	$49.7	$16.7	$3.4	$0.000	$69.8
2002	$47.9	$20.3	$4.8	$0.000	$73.1
2003	$47.6	$25.2	$6.8	$0.000	$79.6
2004	$48.7	$29.1	$8.3	$0.015	$86.1
2005	$51.0	$32.4	$9.7	$0.059	$93.2
2006	$51.2	$34.0	$12.3	$0.055	$97.6
2007	$49.2	$34.0	$13.6	$0.057	$96.9
2008	$44.6	$33.2	$14.6	$0.058	$92.4
2009	$36.4	$31.6	$15.6	$0.075	$83.7
2010	$45.3	$37.4	$17.3	$0.133	$100.1
2011	$39.7	$28.0	$13.3	$0.120	$81.2
2012	$56.4	$30.1	$16.9	$0.141	$103.6
2013	$71.8	$27.8	$19.7	$0.156	$119.5
2014	$84.9	$24.8	$20.5	$0.146	$130.4
2015	$86.1	$21.9	$19.6	$0.111	$127.7
2016	$82.2	$18.7	$17.2	$0.104	$118.1
2017	$72.2	$14.7	$14.0	$0.079	$101.0
2018	$61.9	$12.9	$10.9	$0.082	$85.8
2019	$50.5	$11.3	$8.6	$0.078	$70.5
Total	$1,806.6	$550.4	$251.8	$1.470	$2,610.4

Chapter 30 Kicker Eligible Members As Of September 30,

	2018	2019
Army 2-Year	**4,806**	**3,195**
Army 3-Year	**28,715**	**26,306**
Army 4-Year	**57,992**	**49,319**
Army 5-Year	**8,661**	**8,390**
Army 6-Year	**6,010**	**5,940**
Navy 2-Year	**29**	**25**
Navy 3-Year	**664**	**509**
Navy 4-Year	**37,383**	**29,592**
Marine 4-Year	**11,188**	**9,494**
Marine 5-Year	**6,949**	**6,429**
Marine 6-Year	**79**	**78**
Coast Guard 4-Year	**362**	**350**
Army	**106,184**	**93,150**
Navy	**38,076**	**30,126**
Marine Corps	**18,216**	**16,001**
Coast Guard	**362**	**350**
Total	**162,838**	**139,627**

Number Who Have Been Approved to Transfer Benefits As Of September 30, 2019

	Spouse	Child
Army	**2,002**	**1,446**
Navy	**1,086**	**667**
Marine Corps	**185**	**41**
Coast Guard	**8**	**2**
Total	**3,281**	**2,156**

Excludes 1,517 spouses and children who used all 36 months and are no longer eligible

Active vs Inactive As Of September 30, 2019

	Still on Active Duty	Separated From A.D.
Army	**15,364**	**77,786**
Navy	**8,509**	**21,617**
Marine Corps	**2,159**	**13,842**
Coast Guard	**139**	**211**
Total	**26,171**	**113,456**

*Number Who Have Used Benefit As Of September 30, 2019

	Has Used Benefit	Has Not Used Benefit
Army	**30,430**	**62,720**
Navy	**6,921**	**23,205**
Marine Corps	**2,890**	**13,111**
Coast Guard	**174**	**176**
Total	**40,415**	**99,212**

*Includes Dependents

Transferability Potential Impact

	Army	Navy	Marine Corps	Coast Guard	Total	Total - 2019
Approved to Transfer Benefit (Includes Members Who Used All 36 Months)	4,465	2,200	278	11	6,954	3,905
Approved to Transfer Benefit & Eligibility Remaining	3,448	1,753	226	10	5,437	2,782
Eligible to Transfer Benefit Now But Hasn't (Active & Served 10+ Years)	9,642	6,893	1,784	133	18,452	22,298
Could Become Eligible to Transfer Benefit in Future (Active & Served Less Than 10 Years)	2,880	369	208	0	3,457	8,174
Eligible Members With Potential Transferability	15,970	9,015	2,218	143	27,346	33,254
Total Eligible Population	93,150	30,126	16,001	350	139,627	162,838
% Eligible Members With Potential Transferability	17.1%	29.9%	13.9%	40.9%	19.6%	20.4%

Source of Data: DMDC September, 2019 File

FY 2019 Chapter 30 Kicker Fund Activity

(Dollars in Millions)

	Army	Navy	Marine Corps	Coast Guard	Total - Active
Starting Fund (Oct 18)	$358.5	$38.6	$39.2	$1.238	$437.6
Present Value of Benefits (Liability)	$344.4	$81.2	$48.4	$1.137	$475.1
Funded Ratio	104.1%	47.6%	81.1%	108.9%	92.1%
Unfunded Liability (Surplus)	($14.1)	$42.6	$9.2	($0.101)	$37.6
Amortization Payments	$0.8	$12.0	$4.7	$0.000	$17.5
Start+Amortization	$359.3	$50.6	$43.9	$1.238	$455.0
Per Capita Amount Contributions	$0.0	$0.0	$0.0	$0.000	$0.0
Benefit Payments	($50.5)	($11.3)	($8.6)	($0.078)	($70.5)
Net Receipts (excludes amortization)	($50.5)	($11.3)	($8.6)	($0.078)	($70.5)
Interest	$9.2	$1.2	$1.1	$0.033	$11.5
Net Receipts with Interest	($41.4)	($10.1)	($7.5)	($0.045)	($59.0)
Ending Fund	$317.9	$40.5	$36.4	$1.193	$396.0

(Start +Amortization + PCA Contributions + Interest - Benefits Paid)

Chapter 30 Kicker Projected Fund Activity

(Dollars in Millions)

	Army	Navy	Marine Corps	Coast Guard	Total - Active
FY 2020					
Starting Fund (Oct 19)	$317.9	$40.5	$36.4	$1.193	$396.0
Present Value of Benefits (Liability)	$255.1	$66.4	$30.5	$0.962	$353.0
Funded Ratio	124.6%	61.0%	119.4%	124.0%	112.2%
Unfunded Liability (Surplus)	($62.8)	$25.9	($5.9)	($0.231)	($43.1)
Amortization Payments	$5.9	$8.7	$3.6	$0.000	$18.2
Transfer To/From Other Programs	$3.0	$5.9	$0.0	$0.000	$8.9
Start+Amortization+Transfers	$326.9	$55.1	$40.0	$1.193	$423.1
Receipts (excludes amortization)	$0.0	$0.0	$0.0	$0.000	$0.0
Benefit Payments	($40.6)	($9.1)	($6.2)	($0.059)	($55.9)
Net Receipts (excludes amortization)	($40.6)	($9.1)	($6.2)	($0.059)	($55.9)
Interest	$7.4	$1.2	$0.9	$0.028	$9.6
Net Receipts with Interest	($33.2)	($7.9)	($5.3)	($0.031)	($46.3)
Ending Fund	$293.7	$47.2	$34.7	$1.161	$376.8
(Start +Amortization + Transfers + PCA Contributions + Interest - Benefits Paid)					
FY 2021					
Starting Fund (Oct 20)	$293.7	$47.2	$34.7	$1.161	$376.8
Present Value of Benefits (Liability)	$218.8	$59.9	$25.3	$0.902	$304.9
Unfunded Liability (Surplus)	($75.0)	$12.7	($9.4)	($0.259)	($71.9)
Amortization Payments	$0.0	$5.2	$0.1	$0.000	$5.3
Start+Amortization+Transfers	$293.7	$52.4	$34.9	$1.161	$382.2
Receipts (excludes amortizations)	$0.0	$0.0	$0.0	$0.000	$0.0
Benefit Payments	($35.9)	($7.4)	($4.8)	($0.068)	($48.2)
Interest	$7.6	$1.3	$0.9	$0.031	$9.9
Net Receipts with Interest	($28.3)	($6.1)	($3.9)	($0.037)	($38.3)
Ending Fund	$265.4	$46.3	$31.0	$1.120	$343.9
(Start +Amortization + Transfers + PCA Contributions + Interest - Benefits Paid)					
FY 2022					
Starting Fund	$265.4	$46.3	$31.0	$1.124	$343.9
Present Value of Benefits (Liability)	$188.4	$54.0	$21.2	$0.858	$264.5
Unfunded Liability (Surplus)	($77.0)	$7.7	($9.8)	($0.266)	($79.4)

FY 2019 Gain Loss Analysis of Chapter 30 Kicker Funds

(Dollars in Millions)

	Army	Navy	Marine Corps	Coast Guard	Total - Active
Projected September 30, 2019 Assets	$313.6	$41.3	$35.6	$1.25	$391.7
Projected September 30, 2019 PV Benefits	$298.2	$72.9	$40.2	$1.07	$412.3
Projected September 30, 2019 Unfunded Liability	**($15.4)**	**$31.6**	**$4.7**	**($0.18)**	**$20.7**
September 30, 2019 Assets	$317.9	$40.5	$36.4	$1.19	$396.0
September 30, 2019 PV Benefits	$255.1	$66.4	$30.5	$0.96	$353.0
September 30, 2019 Unfunded Liability	**($62.8)**	**$25.9**	**($5.9)**	**($0.23)**	**($43.1)**
FY 19 Assets Loss (or Gain)	($4.4)	$0.8	($0.8)	$0.06	($4.4)
FY 19 PV Benefits Loss (or Gain)	($43.1)	($6.4)	($9.7)	($0.11)	($59.4)
FY 19 Loss (or Gain)	**($47.4)**	**($5.7)**	**($10.6)**	**($0.05)**	**($63.8)**
	-15.9%	-7.8%	-26.3%	-4.8%	-15.5%
<u>Loss (Gain) Due to PV Benefits:</u>					
Withdrawal Experience & Census Changes	($57.5)	($8.1)	($11.5)	($0.06)	($77.2)
	-19.3%	-11.1%	-28.7%	-6.1%	-18.7%
Interest Rate Assumption Change	$6.5	$1.9	$0.7	$0.04	$9.1
(Assumption Change From 3.25% to 2.75%)	2.2%	2.6%	1.7%	3.6%	2.2%
Usage Rate Assumption Changes	$7.9	($0.3)	$1.1	($0.08)	$8.7
	2.6%	-0.4%	2.8%	-7.8%	2.1%
Total (PV Benefits)	**($43.1)**	**($6.4)**	**($9.7)**	**($0.11)**	**($59.4)**
	-14.5%	**-8.9%**	**-24.2%**	**-10.2%**	**-14.4%**
<u>Loss (Gain) Due to Assets:</u>					
Benefit Usage Experience From Model Projections	($6.1)	$0.5	($1.0)	($0.02)	($6.7)
	-2.1%	0.7%	-2.6%	-2.2%	-1.6%
Interest Earnings	$1.8	$0.2	$0.2	$0.08	$2.3
(Actual Earnings of 2.72% vs Interest Assumption of 3.25%)	0.6%	0.6%	0.6%	6.6%	0.6%
Total (Assets)	**($4.4)**	**$0.8**	**($0.8)**	**$0.06**	**($4.4)**
	-1.5%	**1.0%**	**-2.1%**	**5.5%**	**-1.1%**

Percents below itemized Gain/Loss are Gain/Loss as a percent of projected FY 2019 PV Benefits, except for Interest Earnings, whose percent is a percent of 2019 projected assets.

Amortization Payments (Adjustments) for Active Duty Kicker Program

	Army	Navy	Marine Corps	Coast Guard	Total - Active
Amount in Fund on September 30, 2019	$317,920,595	$40,495,724	$36,406,967	$1,192,583	$396,015,869
Present Value of Benefits	$255,094,258	$66,402,279	$30,494,953	$961,606	$352,953,096
Unfunded Liability (Surplus)	($62,826,337)	$25,906,555	($5,912,014)	($230,977)	($43,062,773)
Amortization Payment on October 1, 2019	$5,936,275	$8,703,835	$3,607,805	$0	$18,247,915
Net Receipts (Contributions - Benefits + Interest)	($33,151,243)	($7,872,122)	($5,279,060)	($31,192)	($46,333,616)
Amount in Fund on September 30, 2020	$293,733,931	$47,181,991	$34,735,712	$1,161,392	$376,813,026
Present Value of Benefits	$218,750,165	$59,908,957	$25,313,833	$902,132	$304,875,088
Unfunded Liability (Surplus)	($74,983,766)	$12,726,966	($9,421,880)	($259,259)	($71,937,938)
Scheduled Amortization on October 1, 2020	$0	$5,204,989	$139,593	$0	$5,344,582
Net Receipts (Contributions - Benefits + Interest)	($28,301,555)	($6,098,847)	($3,856,925)	($37,219)	($38,294,546)
Amount in Fund on September 30, 2021	$265,432,376	$46,288,133	$31,018,381	$1,124,173	$343,863,062
Present Value of Benefits	$188,386,557	$54,016,965	$21,193,967	$857,784	$264,455,273
Unfunded Liability (Surplus)	($77,045,819)	$7,728,832	($9,824,413)	($266,389)	($79,407,789)
Amortization Payment on Oct 1, 2021	**$0**	**$1,630,752**	**$0**	**$0**	**$1,630,752**

Amortization schedule based on 5 years at an interest rate of 2.75%

Army Active Duty Kicker Projections

2020 - 2030

Fiscal Year	Fund - Start of Year	Amortization Payments	PCA Contributions	Benefits Paid	Interest	End Of Year	End of Year Liability	End of Year Unfunded Liability
2020	$317.9	$5.9	$0.0	$40.6	$7.4	$293.7	$218.8	-$75.0
2021	$293.7	$0.0	$0.0	$35.9	$7.6	$265.4	$188.4	-$77.0
2022	$265.4	$0.0	$0.0	$31.1	$6.9	$241.3	$162.1	-$79.2
2023	$241.3	$0.0	$0.0	$26.3	$6.3	$221.3	$139.9	-$81.3
2024	$221.3	$0.0	$0.0	$21.4	$5.8	$205.7	$122.2	-$83.6
2025	$205.7	$0.0	$0.0	$17.8	$5.4	$193.4	$107.5	-$85.9
2026	$193.4	$0.0	$0.0	$14.8	$5.1	$183.7	$95.5	-$88.2
2027	$183.7	$0.0	$0.0	$13.3	$4.9	$175.3	$84.7	-$90.7
2028	$175.3	$0.0	$0.0	$12.5	$4.7	$167.5	$74.4	-$93.2
2029	$167.5	$0.0	$0.0	$11.6	$4.5	$160.4	$64.7	-$95.7
2030	$160.4	$0.0	$0.0	$11.0	$4.3	$153.7	$55.3	-$98.4

Dollars in Millions

Assuming no future gains or losses or changes to assumptions.

Navy Active Duty Kicker Projections

2020 - 2030

Fiscal Year	Fund - Start of Year	Amortization Payments	PCA Contributions	Benefits Paid	Interest	End Of Year	End of Year Liability	End of Year Unfunded Liability
2020	$40.5	$8.7	$0.0	$9.1	$1.2	$47.2	$59.9	$12.7
2021	$47.2	$5.2	$0.0	$7.4	$1.3	$46.3	$54.0	$7.7
2022	$46.3	$1.6	$0.0	$7.3	$1.2	$41.9	$48.2	$6.3
2023	$41.9	$1.3	$0.0	$6.9	$1.1	$37.5	$42.5	$5.1
2024	$37.5	$1.1	$0.0	$6.3	$1.0	$33.2	$37.4	$4.1
2025	$33.2	$0.9	$0.0	$5.6	$0.9	$29.3	$32.7	$3.3
2026	$29.3	$0.7	$0.0	$5.0	$0.8	$25.8	$28.5	$2.7
2027	$25.8	$0.6	$0.0	$4.5	$0.7	$22.6	$24.8	$2.2
2028	$22.6	$0.5	$0.0	$4.0	$0.6	$19.6	$21.4	$1.8
2029	$19.6	$0.4	$0.0	$3.7	$0.5	$16.8	$18.2	$1.4
2030	$16.8	$0.3	$0.0	$3.3	$0.4	$14.2	$15.4	$1.2

Dollars in Millions

Assuming no future gains or losses or changes to assumptions.

Marine Corps Active Duty Kicker Projections

2020 - 2030

Fiscal Year	Fund - Start of Year	Amortization Payments	PCA Contributions	Benefits Paid	Interest	End Of Year	End of Year Liability	End of Year Unfunded Liability
2020	$36.4	$3.6	$0.0	$6.2	$0.9	$34.7	$25.3	-$9.4
2021	$34.7	$0.1	$0.0	$4.8	$0.9	$31.0	$21.2	-$9.8
2022	$31.0	$0.0	$0.0	$3.8	$0.8	$28.0	$17.9	-$10.1
2023	$28.0	$0.0	$0.0	$3.1	$0.7	$25.6	$15.3	-$10.4
2024	$25.6	$0.0	$0.0	$2.5	$0.7	$23.8	$13.1	-$10.7
2025	$23.8	$0.0	$0.0	$2.1	$0.6	$22.3	$11.3	-$11.0
2026	$22.3	$0.0	$0.0	$1.8	$0.6	$21.1	$9.8	-$11.3
2027	$21.1	$0.0	$0.0	$1.5	$0.6	$20.1	$8.6	-$11.6
2028	$20.1	$0.0	$0.0	$1.4	$0.5	$19.3	$7.4	-$11.9
2029	$19.3	$0.0	$0.0	$1.2	$0.5	$18.6	$6.4	-$12.2
2030	$18.6	$0.0	$0.0	$1.1	$0.5	$17.9	$5.4	-$12.5

Dollars in Millions

Assuming no future gains or losses or changes to assumptions.

Coast Guard Active Duty Kicker Projections

2020 - 2030

Fiscal Year	Fund - Start of Year	Amortization Payments	PCA Contributions	Benefits Paid	Interest	End Of Year	End of Year Liability	End of Year Unfunded Liability
2020	$1,193	$0	$0	$59	$28	$1,161	$902	-$259
2021	$1,161	$0	$0	$68	$31	$1,124	$858	-$266
2022	$1,124	$0	$0	$68	$30	$1,086	$813	-$274
2023	$1,086	$0	$0	$66	$29	$1,049	$768	-$281
2024	$1,049	$0	$0	$65	$28	$1,012	$723	-$289
2025	$1,012	$0	$0	$66	$27	$973	$676	-$297
2026	$973	$0	$0	$80	$26	$919	$613	-$305
2027	$919	$0	$0	$84	$24	$858	$545	-$313
2028	$858	$0	$0	$85	$23	$796	$474	-$322
2029	$796	$0	$0	$79	$21	$738	$408	-$331
2030	$738	$0	$0	$69	$19	$689	$349	-$340

Dollars in Thousands

Assuming no future gains or losses or changes to assumptions.

Chapter 30 Kicker Fiscal Year 2021 Normal Costs

Service / Contract	Monthly Kicker Amount $150	$250	$350	$450	$550	$650	$750	$850	$950
Army / 2 Year	$1,901	$3,204	$4,537	$5,897	$7,284	$8,697	$10,136	$11,600	$13,088
Army / 3 Year	$1,828	$3,081	$4,362	$5,669	$7,001	$8,359	$9,740	$11,145	$12,573
Army / 4 Year	$1,736	$2,923	$4,135	$5,369	$6,625	$7,903	$9,201	$10,520	$11,859
Army / 5 Year	$1,665	$2,801	$3,957	$5,133	$6,326	$7,539	$8,768	$10,015	$11,279
Army / 6 Year	$1,533	$2,579	$3,642	$4,722	$5,820	$6,934	$8,064	$9,209	$10,369
Navy / 4 Year	$1,913	$3,222	$4,556	$5,915	$7,297	$8,702	$10,128	$11,576	$13,043
Marine Corps / 4 Year	$1,887	$3,173	$4,482	$5,811	$7,162	$8,532	$9,923	$11,332	$12,759
Marine Corps / 5 Year	$1,849	$3,109	$4,390	$5,692	$7,014	$8,355	$9,715	$11,093	$12,489
Marine Corps / 6 Year	$1,787	$3,006	$4,245	$5,504	$6,783	$8,081	$9,397	$10,730	$12,082
Coast Guard / 4 Year	$1,495	$2,508	$3,532	$4,569	$5,616	$6,675	$7,744	$8,824	$9,913

Chapter 30 Kicker Fiscal Year 2022 Normal Costs

Service / Contract	Monthly Kicker Amount $150	$250	$350	$450	$550	$650	$750	$850	$950
Army / 2 Year	$2,474	$4,161	$5,876	$7,618	$9,385	$11,176	$12,991	$14,828	$16,685
Army / 3 Year	$2,373	$3,992	$5,638	$7,310	$9,008	$10,729	$12,472	$14,237	$16,023
Army / 4 Year	$2,239	$3,764	$5,314	$6,886	$8,481	$10,097	$11,732	$13,386	$15,058
Army / 5 Year	$2,141	$3,597	$5,074	$6,571	$8,088	$9,623	$11,176	$12,746	$14,331
Army / 6 Year	$2,062	$3,462	$4,882	$6,321	$7,779	$9,253	$10,743	$12,250	$13,771
Navy / 4 Year	$2,113	$3,554	$5,019	$6,506	$8,015	$9,544	$11,093	$12,661	$14,247
Marine Corps / 4 Year	$1,740	$2,930	$4,143	$5,378	$6,635	$7,912	$9,210	$10,528	$11,865
Marine Corps / 5 Year	$1,668	$2,809	$3,971	$5,155	$6,359	$7,584	$8,828	$10,091	$11,372
Marine Corps / 6 Year	$1,599	$2,687	$3,792	$4,913	$6,049	$7,201	$8,367	$9,548	$10,743
Coast Guard / 4 Year	$1,733	$2,903	$4,083	$5,273	$6,474	$7,684	$8,903	$10,131	$11,367

Post-Vietnam Era Involuntary and Voluntary Separatees
Fund Activity and Annual Payments For Fiscal Year 2020

FY 2020	Army	Navy	Marine Corps	Air Force	Coast Guard	All DoD	DoD & Coast
Fund Balance as of September, 30, 2019	-$53,119	-$5,196	-$5,773	-$24,486	$1,418	-$88,574	-$87,155
October 1, 2019 Receipts	$58,366	$4,502	$1,374	$27,642	$0	$91,884	$91,884
Balance as of Oct., 1, 2019	$5,247	-$694	-$4,399	$3,156	$1,418	$3,310	$4,729
Benefit Payments (thru May)	$6,627	$5,527	$0	$11,685	$0	$23,840	$23,840
Benefit Payments (Proj Full Year)	$8,934	$7,312	$0	$15,822	$0	$32,068	$32,068
Interest Owed	-$10	$112	$106	$130	-$34	$338	$303
Projected Fund Balance on October 1, 2020	**-$3,676**	**-$8,118**	**-$4,505**	**-$12,796**	**$1,452**	**-$29,095**	**-$27,643**
Amount Due on October 1, 2020	**$3,676**	**$8,118**	**$4,505**	**$12,796**	**$0**	**$29,095**	**$29,095**

ATTACHMENT 4

Transcript of the
Department of Defense Board of Actuaries Meeting

UNITED STATES DEPARTMENT OF DEFENSE

DEFENSE HUMAN RESOURCE ACTIVITY

BOARD OF ACTUARIES

VIRTUAL MEETING

(CVR/MS TEAMS)

Alexandria, VA

Friday, June 26, 2020

PARTICIPANTS:
MARCIA DUSH, Chairperson
JOHN MOORE, Board Member
MIKE CLARK, Board Member
PETE ZOURAS, Chief Actuary, Executive Secretary
PETE ROSSI, Deputy Chief Actuary
HYUNG J. HAM, Actuary
NICK GARCIA, Actuary
RICHARD ALLEN, Actuary
INGER PETTYGROVE, Actuary
CHELSEA CHU, Actuary
BILL MOORHOUSE, Advisor
JAMES FASANO, Advisor
ANDY CORSO, Advisor
THOMAS LIUZZO, Advisor
PATTY LEOPARD, Advisor
JEFF GOLDSTEIN, OMB
ANITA CHELLARAJ, OMB
DAVID RAFFERTY, CBO
STEPHANIE SIMONICH, Metis Solutions
BRENT MOWERY, Kornferry
CRAIG GRABY, Kornferry

PARTICIPANTS (CONT'D):

NEIL THOMPSON, VA

CHRISTINA DITUCCI, VA

SADAF RAHMANI, VA

COLLEEN HARTMAN, Comptroller

ALICIA LITTS, Comptroller

PETE ABRAHAM, DMDC

SCHILEEN POTTER, DMDC

DONALD E. SUTTON, III, ARNG

RICK VIRGILE, USCG

DEBORA K. STATON, USARC

GAYLA CUMMINGS, USARC

ODY CURIC, CISIBP

GERALD DAVENPORT, DFAS

EDITH SMITH, Capital Crusader

CPT DARIUS R. HINTON, ARNG

PAUL DOTTO, OPM

* * * * *

P R O C E E D I N G S

(10:03 a.m.)

MR. ROSSI: So we have with us today -- I have all three board members present, chairperson Marcia Dush, John Moore, board member, Mike Clark, board member. I believe Pete Zouras, DOD chief actuary executive secretary is on the line.

And for the first portion of today's meeting, discussing military retirement fund, and military separation incentive fund, I have Andy Corso, board advisor, James Sassano, board advisor, Tom Liuzzo, board advisor, Bill Moorhouse, board advisor.

With that said, Ms. Chairperson, I'm going to hand the meeting off to you.

MS. DUSH: Good morning. This is Marcia Dush, and I would like to call to order the meeting of the Department of Defense Board of Actuaries. First of all, I would like to thank Pete Zouras and the OAC (phonetic) staff for helping us prepare for this very nonconventional meeting. And I would like to also indicate that this meeting is being recorded, as you may have heard. I would like to introduce my colleagues, John Moore, he has been a board member for the last five years; as well as introduce a new board member, Mike Clark, who is joining us for the first time today.

I just wanted to note for the record that the board has received information ahead of this meeting and some of the -- on some of the subjects that we will be discussing and the various presentations that were provided to us will be amended to the minutes of this meeting.

At this point I would like to review the agenda. We will be talking first about the military retirement fund and then move on to the voluntary separation incentive fund. And that should take us someplace close to 11:00 where we can have a short break and hopefully reconnect at about 11:00 to finish up with the education benefit fund.

And that was my next point, which is

please stay on mute unless you are speaking. I believe that if you raise your hand, I think that Pete has control, Pete Rossi has control and can help facilitate discussions. But I would also ask you to reserve your questions until the end of the discussion for each of the funds. The question on the military retirement fund should come at the end of our discussion of the military retirement fund. And Pete, I would ask you to help me make --

RECORDING: You've been muted.

MS. DUSH: -- fund to BSI. And with that, I would like to turn it over to Pete Rossi to start talking about the military retirement fund.

MR. ROSSI: Thank you, Marcia. I'm also going to put material on the screen for everybody. So hopefully everybody, all in attendance today, received a meeting pack from me last night with updated slides to be discussed today, the agenda, and the supplemental information that the board has received. So right now as Marcia pointed out we're going to start with the MRF meeting packet which is final. And we will start on PDF page 1. And according to our agenda, the first topic of discussion is the starting population and then we'll move into evaluation results, the (inaudible) analysis and the end fund liability amortization that will cause payments.

So the -- PDF page 1 shows the starting population for the valuation of the military retirement fund, left-hand side, 2018, right hand side, 2019. The highlights on this page are that we break down the population by focusing the blended retirement system and those who are not in the blended retirement system, those who did not opt in or entered service after January -- on or after January 1, 2018. The 2018 was an estimate based on partially complete information of opt-in elections. And 2019 is actual blended retirement system data for those who had opted into the program and new selections into service.

So active duty personnel, full-time reservists are standard presentation are on top.

Drilling reservists the next group and then the nonselective reservists are in the gray area, retirees are that. And then all of the retirees, the non-disabled retirees, disability retirees, surviving families, and the surviving indemnity recipients or the SSIA folks.

Another highlight here are that those 65 -- approximately 65,000 folks in 2018 are now included in the evaluation in 2019. So it's not like they fell off and became not applicable, but they are included in the evaluation. And we will get into why that is. Many of you know already, but you will get into it.

PDF page 2, military retirement fund and actual (inaudible) information. Switching it up here, the 9/30/19 valuation is on the left and the '18 is on the right and the delta between those two is highlighted in greenish here. At the bottom of this page is a -- just a box that highlights the long-term economic assumptions underlying both of those valuations; '18 on the left and then '19 on the right. It's important because we will see why in a second.

This would really be -- what we got to here is that the unfunded liability line 5 is the summation of everything. And we are at $755 billion unfunded liability as of the 9/30/19 valuation. It's an increase of 36 billion. And the underlying NCPs, normal cost percentages are retired pay accruals for the various years.

The most highlight here would be line 7, the fiscal year 2021 NCPs for full-time and part-time, 34.9 and 26.9. We will see those numbers again, but these numbers include the benefit provisions that were part of the National Defense Authorization Act of 2020 which included, for the footnote in three, the repeal of the SVP DIC offset and then additional reserve authorities under section 12 304B. The resulting Treasury NCPs are below for current receipt benefits.

Moving on to PDF page 3 change in unfunded liability. Here's that number again, line 5, 755, there was a total change in unfunded liability of $92 billion, most of which was an assumption change loss of $75 billion that was a lower change to the long-term economic assumptions. Last year's board meeting, the board lowered the real interest assumption by one quarter of one percentage which generated a $67 billion loss to the unfunded liability, but then also increased the normal cost percentages.

And then here are the two -- line C are the two benefit changes that I mentioned earlier. There was very small economic and noneconomic change from this year so that's good.

PDF page 4 is the total Treasury payment for fiscal year 2021. That payment was made on October 1, 2020, on the left. Last year's payment, October 1, 2019 for fiscal year '20 is on the right. Really nothing to point out here other than we are proposing to use the same amortization schedule we have in the past, which is described in this note here at the bottom, which just is a weighting of new gains or losses over 30 years that weighed into the total, whatever the average waiting currently is a amortization -- current amortization balance by each of the items above for a total Treasury payment to me made on October 1st of $108.8 billion.

MS. DUSH: Okay. At this point I would like to ask my colleagues John and Mike if there is any discussion on these results. And if not, I think we need a motion to approve these results and the continuing amortization policy for the results for the plan.

MR. MOORE: Marcia, this is John. I don't have any questions or discussions and I will be happy to make that motion.

MR. MIKE CLARK: I agree.

MS. DUSH: So a motion and has been made, motion has been seconded. All in favor say aye.

IN UNISON: Aye.

MS. DUSH: Motion is passed. Pete, I think -- are you -- you are still on?

MR. ROSSI: I'm still on. Hopefully, my voice is trying to keep everybody awake. So I'm going to be on for just a little while longer. So moving on to agenda item 2 would be the September 30, 2020 evaluation of military retirement fund proposed method and assumptions. We are going to start with the economic assumptions and then move into the noneconomic assumptions where I will be partially relieved of duty by my colleague. Then that will lead us to the FY '22, full-time and part-time NCPs. Starting with that --

MS. DUSH: (Audio break). Okay, good.

MR. ROSSI: So I was looking at something. As the controller, also I lose -- when I click off the screen, it goes blank. But we will go PDF page 5 and we will start with the economic assumptions and this is an environmental scan of what other systems are doing.

So last year the MRF fund on the left here, this is the board assumptions that were set were approved at last year's board meeting in July 2019. Just to restate, that is a 2.75 percent inflation and a 3.25 across-the-board salary which excludes promotion and merit increases, and a 4.75 interest rate assumption.

The OPM or civil service board of actuaries met earlier this year and here are their -- their assumptions are shown as 2.4, 265, and 4. I would point out that they lowered their long-term economic assumptions that this particular meeting. Social Security trustees also released their report a couple of months ago in April 2020. The immediate assumptions shown here are -- were also lowered as of this particular report.

And just for the Board's information, we have three other bits of information that could be used, military retirement fund financial statements, those from CBO and the blue-chip consensus inflation, and pending treasury note information. These are not as long-term as the longer programs as we all look forward 75 to 100 years, these are the bits of information that are on shorter-term 10-ish years. Moving down to --

MS. DUSH: Pete.

MR. ROSSI: Yeah.

MS. DUSH: May I suggest that we go on

to the next slide? And then I think we will have some discussion about the assumptions.

MR. ROSSI: Okay. PDF page 6 is again, this does a little math for the board. That shows a real interest assumption, and a real salary assumption of one half of 1 percent for real salary, and 2 percent interest. And then everybody -- all the other programs above. The board has relied on, or used, blue-chip for informational purposes in the past.

Below here we could see the CPI or inflation from December 2016, and the 30-year treasury rate. And then the difference between the two with a real return and how that has changed as we come forward in time to December 2019. And here is the blue-chip long-range survey.

Marcia, before we discuss, would you like me to go over the fund real projection? Or would you like to --

MS. DUSH: I think what I would like to do is, if you would click back to page 5, I would just like to make a comment about the Social Security.

MR. ROSSI: Yes.

MS. DUSH: I think over the last year, or at last year's meeting, and in preparation for last year's meeting, I think our discussion has been that we -- that we really have been starting to look at Social Security, the intermediate range assumptions, to guide us.

And so I think one of the important things there is to also recognize that, for our purposes, the salary increase assumption used by Social Security, their increase does take into account merit and promotion, whereas when we talk about a salary increase for the MRF, it is just the increase, the annual increase in the base pay and does not include consideration of merit promotion because you have other assumptions that are added to whatever we choose for the salary scale.

So I -- like I say, the point I wanted to make is I think something that the board takes very seriously is the Social Security intermediate assumptions for inflation, and then we'll look to kind of -- we've looked at information regarding ECI and its relationship to base pay to consider what we should do there.

And then if you want to go on now to the forecast of the fund returns, that will help us talk about what we see as the fund capability of earning real investment returns.

MR. ROSSI: Thank you. So this is a page from the blue-chip -- well, PDF page 7 here in your MRF packet, the blue-chip, long-range survey of various economic rates. And some of these will be used in fund yield projection on PDF page 8. So here for the Board, we have a -- something we've used in the past as a resource is a yield projection for the military retirement fund.

And what we -- how the model works is we take everything currently in the inventory, total asset inventory as of the valuation date. So September 30, 2019. We age those assets in the portfolio and as they mature and as investments, or contributions, or made to the fund, benefit payments are made from the fund, whatever the excess -- the excess available funds are, are then projected -- are then invested into various rates based on the investment policy of a particular fund. So in this case, MRF.

And then that, the investment income, then leads us to a fund yield for that particular year. So just to -- how to read this chart is we have the fiscal year on the left followed by the inflation for that particular year. Skipping a column, the nominal fund yield is the fund yield for the fund and the real fund yield going back one column is the difference between the nominal fund and inflation.

Then for just additional information, we have new investments on a cumulative basis and new investments on an annual basis. And on the right side there are just different averaging periods here. So just an average of the 10, 20, 30, 50, and 75, and then on the fund weighted basis, which is slightly different, getting 10, 20, 30, 50, 75.

The ultimate rates are 2.4 inflation using the SSA immediate assumptions, 4.7 percent nominal fund yield. And just as a reminder, the board assumptions currently for the -- as of the 9/30/19 valuation were 2.75, 2 percent real, and 4.75 nominal interest. So we show -- we give the board to different sets of economic forecast. One is using the Social Security intermediate, and the second on PDF page 9 uses the blue-chip assumptions from a long-range survey we saw back two pages ago on page 7.

So that is -- that concludes economic presentation. I'm going to turn it back over to the board for discussion.

MS. DUSH: All right. I think the important -- one of the important differences between these two forecasts is in fact kind of a different forecast on real fund yields, real returns. And so that is something that I would like us to discuss. And also, just again, talking about our comfort level with the CPI as well as what we think about base rate, base pay increase assumption.

I had asked OAC earlier about -- essentially about how much of our liability is paid out over the next 30 years. And Pete Zouras, I believe what you told me, or Pete Rossi, that in the next 30 years approximately 40 percent of the liability, the benefit payments that are now included in the actuarial liability are paid out over the next 30 years. So that while our fund has a 75- or 100-year outlook, because new members could work for 20, 30 years, serve for 20 or 30 years, and then live in retirement another 30, 40 years.

I mean, we have a long forecast period, but the fact is that a lot of our benefit payments are still paid out. The liability that we are measuring is still attributable to benefits being paid out over the next 30 to 50 years.

So at this point I would like to as my colleagues their thoughts on our assumptions.

MR. MOORE: Marcia, this is Jonathan.

If it works for you what I could do is go ahead and put a motion on the table for all three assumptions and then we could get into a discussion about those if that works.

MS. DUSH: That's fine.

MR. MOORE: Okay. So what I will -- I will make a motion that for the cost of living, or for inflation, that we drop from 2.75 to 2.5. For salary, that we take the real salary down from.5 to.25, which means that the gross salary would go from 3.25 down to 2.75.

And then on the interest rate, again, we adjust the real interest rate down from 2 to 1.75, which means that the gross interest rate would go from 4.75 to 4.25. So I will make that as a motion and then we can discuss further.

MS. DUSH: All right. Shall we have discussion first before we move? Before we actually vote?

MR. MOORE: Unless you want a second -- a second and then go into discussion.

MS. DUSH: All right. Mike?

MR. CLARK: I will second the motion.

MR. MOORE: Okay.

MS. DUSH: All right.

MR. MOORE: So I will open up with some --

MS. DUSH: No, go ahead please.

MR. MOORE: Okay. I will open up with some thoughts on there. Again on -- as you have well stated, we certainly are -- with respect to inflation, we certainly pay quite a bit of attention to Social Security. And they, I believe they were 2.6 last you're going down to 2.4 this year. And so our 2.75 certainly was sitting higher. So I would be more comfortable putting -- pulling our inflation rate down, which is what the -- the basis for that proposal. So it's still -- we are still a little different than Social Security, but very similar in range.

And then kind of jumping to the real interest rate -- I mean, the other note for us is that inflation is not that critical to our valuation because the benefits also go up with inflation. So the real -- the real important assumption for us is our real interest rate, which we are talking about lowering to 1.75.

We lowered it last year a quarter basis point, but I think we've still been concerned that we were counting on too high of real returns over the long run. And the chart in front of us does a good job of showing that, as you said, if you look around the 30 year average fund weight or the 50 year average fund weight, you see real returns over that period coming in at 1.64 to 2.02.

And so when we look at our actual portfolio and these assumptions, the lowering our interest rate down to 1.75 puts us into the range that we are seeing here and it just, for me, feels more in line with our plan and its liabilities.

Then finally, just a comment on the salary. That one is a -- just looking over recent history, the dropping of those other assumptions and also looking at the salary, just a slight drop they are from the.5 to.25 just seemed a better line with where we have been in recent years. So those are my --

MS. DUSH: Thank you.

MR. CLARK: Well, I would just add the comments that the outlook for returns on treasuries and TIPS (phonetic) is going to be challenging I think over the next 20, 30 years. And this is -- and so that reduction is definitely consistent with what we are seeing on the corporate plans I work on in my other job. So I feel that looking at those real returns and that average bucket, 30 to 50-year average, going to 1.75 feels consistent to me. And just generally the inflation, inflation it certainly feels like in the near term that is going to be suppressed. But I think bringing inflation a little bit more line with Social Security and some of the European plan feels -- I'm good with that move as well.

MS. DUSH: You know, the one comment that I would make is that the benchmarks that we looked at on pages five and six, and even the blue-chip benchmarks, those are all dated because they were all prepared before the market crash associated with the pandemic. And I think had we been making these assumptions, we feel a lot more comfortable, I would feel a lot more comfortable with a projection. I think these are the assumptions that perhaps we would have chosen before the pandemic. How the pandemic is going to affect rates in the future, I don't -- my own reading is that nobody knows.

You would think with so much money being paid out the additional debt that the government has taken on, that there might be a little more push for inflation. But we've been saying that for as long as I've been on the board and yet inflation hasn't seemed to creep up very much. So I'm very comfortable with lowering our inflation estimate down to something closer to where Social Security is.

I'm also comfortable lowering the real fund yield number just based on -- especially based on the fact that most of our fund is invested in -- for very long term and that the big payments into the fund, the contributions coming into the fund, will -- the original unfunded will be paid off I believe in 2026. So from then on it will be essentially just reinvestments that will determine -- that will be invested in new money. So it will take very long -- a very long time for our fund to kind of creep out of this current environment.

So with those thoughts, I agree with the change. I also agree that having looked at the relationship of ECI to base pay over the last decade or so coming in at about.3 percent per year, that going to a quarter point there is -- makes me comfortable. So I'm comfortable with the change. And if there are any other comments?

I will then take a vote. Shall we vote? All those in favor of moving the assumptions, so CPI would go from 2.75 to 2.5. The real rate of return would go from 2.0 to 1.75 so that the nominal interest rate for valuation purposes would be 4.25 and the salary scale real increase would go from.5 to.25 so that the nominal increase would be 2.75. All those in favor.

MR. MOORE: Aye.
MR. CLARK: Aye.
MS. DUSH: Aye. Motion is passed. Pete, we back to you?
MR. ROSSI: We are back to me. I would just -- just as taking attendance because I will make sure we capture everybody in this moment. So again, I can't keep track of everybody who was calling in.
So I have a number. I'm going to say the last four digits of your phone number that you are calling from, and if you could just take your name, that would be great. 9928. 202-226-9928. Going once going twice. All right. 202-631-5904. 5904. Yell bingo.
MS. PETTYGROVE: Pete?
MR. ROSSI: Yes.
MS. PETTYGROVE: Hey, it's Inger Pettygrove on the DFO for this FACA committee. I would also suggest that -- I believe everyone has Kathleen Ludwig's email address. And anybody who is not a board member, or a board advisor, or on

the actuary staff, it couldn't hurt to shoot her an email after this. This is frequently how we been doing attendance at these group video calls.

So just to make sure you are included, and we need this -- we need to reflect the attendance list accurately. Everybody outside those groups, please send Kathleen Ludwig an email after the meeting.

MR. ROSSI: That works.

MS. DUSH: All right. So --

MR. ROSSI: All right. Let's go back. Perfect. So now, before we get into the non-economic assumptions on PDF page 10, I'm going to hand it over to DOD chief actuary and executive secretary, Mr. Pete Zouras, to talk through the summary.

MR. ZOURAS: Okay. Thanks, Pete. So we are going to start talking about the four noneconomic proposals that we are proposing for the FY 2022 DODS NCP and Treasury contribution. There is a -- at the top of that page, there is a reconciliation going from last year's budgeted NCP to the 2022 NCP. And we also have the effect of the economic assumptions that the Board just approved in item 5.

So with that, I will hand it over to Nick Garcia to start the presentation of the noneconomic proposals.

MR. GARCIA: Great. Thanks, Pete. And thank you, Pete Rossi, for navigating these handouts. So going to PDF page 11, I'm going to introduce the proposed change for disabled decrement rates.

I will start off by just discussing the summary impact that these rates have. They are not big. There is a.2 percent increase to the fiscal year 2022 full-time DOD, and CP and a.9 percent increase in the part-time NCP. And there is an increase in the 9/30 2019 accrued liability of $2.2 billion, or.1 percent.

What this proposal is, is an update or rescaling of our current disability rates, which would be updating the experience periods of fiscal years 2015 to 2019 where they were based on 2010 to 2014 before.

And if you look at the graph or the table I mean, you will see that -- if you look at the 2010 and 2014 period which was used before, there were quite a few less disability retirements each fiscal year. And that number has been increasing steadily over the years. So we're now going to be using the 2014 to 2019 disability rates, or experience period for the disability decrement rates.

If you are interested in seeing what the actual rates were, they are on PDF page 17. I'm not -- yeah, if you wanted to go there -- okay. So we have different categories for the disability decrement rates for the active component, temporary disability, permanent disability, and officer, enlisted. And there is also disability decrement rates for the reserve component, temporary and permanent disability, officer and enlisted.

And you see for the majority of them, you will see the orange graph is the current rate and the blue is what we are proposing for that, that Pete currently has his mouse over. That's got -- they are reducing -- our update is reducing the disability decrement rate. But for the other categories, that disability rate is increasing.

So before I move on, are there -- I mean, I know that was quick, but are there any questions regarding these?

Okay.

MS. DUSH: I have no questions.

MR. GARCIA: So I will move on to PDF page 12. And for this, we are proposing an update to the mortality improvement scales. Again, starting with the summary impact. This proposal results in a.0 percent change to the full-time DOD NCP, a -.1 percent change to the part-time DOD NCP, and it decreases the approved liability by $3.7 billion or.2 percent.

So we actually did update this a few years ago, which now is using military data, military retiree data. And we are now continuing to use military data, but we are adding three more years. So prior to this we were using fiscal years 2000 to 2016. We are now going to go from -- to include the last -- the most recent three years. So it will now be fiscal years 2000 to 2019.

We also upgraded the graduation technique that we are using. And if you look at the comparison table, the model components from last year's to our proposed change, the only two components that are changing are the underlying mortality data and the graduation technique. And all the other components remain the same.

On -- yes.

MS. DUSH: Just a comment. I believe this parallel what is happening in the mortality study for nonmilitary, for the work that the Society of Actuaries is doing for corporate plans that they've had to scale back a little bit on their mortality improvement projections. Is that -- am I correct in that?

MR. GARCIA: Pete Zouras, I know you are -- use it on one of the SOA committees. Did you have anything to add to that?

MR. ZOURAS: Yeah, I no longer am on that committee. But yeah, I'm not sure that it's a -- you know, a similar trend with the military versus the general population. We would have to look into that.

MS. DUSH: Okay. But you just --

MR. CLARK: Marcia, this is -- I'm sorry.

MS. DUSH: Go ahead, Mike.

MR. CLARK: It's Mike Clark. Yeah, I can confirm that. Yeah, we are seeing that on the corporate plans that use Social Security experience data. The addition of extra year has -- it's resulted in a small reduction in liability.

MS. DUSH: Okay. Thank you.

MR. CLARK: Yeah.

MR. GARCIA: Okay. Well, on PDF page 13, we do show a snapshot of how these mortality improvement scales change life expectancies. So you'll see the current proposed and proposed is decreasing the majority by a fraction of a year. If you wanted to compare the PEET MATS for these updated rates, those are on PDF page 19, proposed versus our current rates.

And I think the big take away from these PEET MATS is that they don't change a whole lot. The general shape of them are the same. The decreases and increases are in the same areas. And that's also shown in the small changes in the NCP, part-time and full-time.

MS. DUSH: Okay. I have no further questions on this.

MR. GARCIA: Okay. So then we can go to PDF page 14. So this is another noneconomic assumption change. We are proposing a change to the disability VA offset parameters. Again, summary impact, this proposal results in a 1 percent decrease to the fiscal year 2022 full-time DOD NCP, a 1.2 percent decrease in the part-time NCP, and a decrease in the 9/30 2019 accrued liability of $7.9 billion, or.5 percent.

So this proposal will be again, updating the experience period. So our current rates are using fiscal years 2000 to 2009. We're going to be updating those to 2018 to 2019. And this is to show that more disability retirees are getting VA award from the Department of Veteran Affairs. And these VA awards will offset their DOD retired pay, which is decreasing the amount of money that's getting paid out of the retirement fund.

And yes, this table that Pete has his mouse over, it shows the percentages of new disabled retirees who are fully offset. And you can see that this has been steadily increasing over the years.

Again, if you wanted to see these rates and the categories that they're applied to, they are shown in PDF page 25. So these rates are broken out by active components and reserve components, also pay grade, so officer enlisted. And also for years of service, under 20 years and over 20 years of service.

MS. DUSH: So this would highlight essentially a change in the distribution of normal cost between what is shared with the Treasury, the sharing amount between Treasury and DOD?

MR. GARCIA: Yes, that is in, I believe in one of the footnotes. But yeah, Pete Rossi or Pete Zouras, did you want to elaborate on that?

MR. ZOURAS: Yeah, that's correct Marcia.

MS. DUSH: Okay. All right. I don't have anything further.

Mike? John?

MR. MOORE: No additional comments here.

MR. CLARK: None for me either Marcia. Thank you.

MR. GARCIA: Okay. Well that actually -- until we get to DSI, that concludes my presentation. And then I'll be handing it back over to Pete Rossi for the reserve rates and factors.

MS. DUSH: Okay.

MR. ROSSI: Great. Thank you, Nick. PDF page 15 so here we are updating three different proposals under the reserve valuation model, so reserve rates, in fact, this year, the summary of which is 1 percent decrease to the FY '22 full-time NCP and a 1.6 percent decrease to the part-time which would lead to a decrease of the accrued liability of $11 billion. So we are going to start with the first of three proposals.

So within our reserve model, as I pointed out earlier, we have two separate sets of the select reserve, the drillers and the nonselective reserve or the gray area folks. The gray area data has been improving over the years. So one of the -- and looking and studying the gray area data and for the valuation purposes, we saw that there were changes that could be made. So one of the changes, we made two separate changes.

One is for the gray area loss rates where loss is any reason that is not going -- applying for retired pay at age 60 or whatever your eligibility age is. And then the second is what we call blowup factors or increased factors. Some folks, there were, in comparing gray area folks on the data file to actual applications for retired pay, there was -- in prior years there was some substantial differences, but those have been less in some of these data cleanup actions. So this is an improvement in the data, and we are updating our model to reflect that.

The second is nondisabled reserve retirement rates. This is in reaction to NDA 2008 which allows for service performed under certain activations after January 2008 qualify for early reserve retirement. So this is just a restructuring of how we are modeling that provision now. So instead of allowing this really discreet ages down from 60 to 59 to 58, we now allow retirements to occur, albeit small, down to age 50. More importantly, and it allows us to update the model be more responsible to update this was the early reserve retirements come onto the rolls.

In the third and final is updates to the point per year assumption. So this assumption captures reserve paid points, paid, and unpaid points earned in a particular year. The reason for updating this was we had some anecdotal discussions early on with the Army National Guard about a year ago. They were pointing out that their data was showing fewer points per year.

So as we went in and were considering what we should update this year, one of the things we saw was there were fewer points per year. So we were picking up that, reflecting that here. So then update from moving forward to using 2017 to 2019 and then what we show the average points per year, the new average is 97 for enlisted as opposed to 99 under our current assumptions and the 100 for officers compared to 102. I will quickly just flip through the attachments for all three of these. We have attachments four, five, and six. Four IS for blowup factors for the increased rates.

RECORDING: You are no longer muted.

MR. ROSSI: If anybody wants to. Officer and enlisted. And here is some of the rate development attachment five for the non-disabled reserve retirement rates.

Yes, I can. It's also the Jersey accent too, I know.

So this is -- this is what I'll do. Attachment four shows the gray area loss rates for officer and enlisted on pages 27 and 28.

Attachment five is the actual rate developing for the reserve retirement rates. It's been expanded into -- on page 30. Page 31 is also a continuation of attachment five for our projection from our model. Current is on the top and proposed is on the bottom. So you see very slight change, but it allows us to be more flexible again.

Attachment six is the current officer selected reserve average points per year, for enlisted on page 33. 34 is the proposed -- 35 is proposed enlisted. And then we had the chart of both of these two conclude this presentation on page 36, officer enlisted.

MS. DUSH: So Pete, if I could summarize a little bit. The gray area loss rates and blowup factors, that is the recognition of improved data.

The nondisabled reserve retirement rates, that is recognizing a change in law and the recognition that, in general, while you are still projecting retirements now between age 50 and 60, it still might be that people are going to retire, we believe, a little later than you were using under the current model. This is a more flexible model but is showing a little later, on average retirement age because that is generating decreases in both the NCP and the accrued liability.

And the points per year is being -- was showing savings on -- let's see, were showing increases on NCP, minor increases on NCP, but a decrease in liability. And there is lower points for enlisted, a little higher points for officers, but the way the actuarial method works out it's developing a little higher NCP for the part-time and decreases the accrued liability. Have I summarized that correctly?

MR. ROSSI: I think you have, yes.

MS. DUSH: All right. With that, could

you take us back to page 10 what we have the summary? Oh, you are there. And I guess I would call for a motion to adopt these changes in assumptions.

MR. CLARK: All right. I guess I'll make the motion to adopt the non-economic assumption changes.

MS. DUSH: Ingrid do we need to spell them out for the motion, Mike --

MR. CLARK: Mike Clark.

MS. PETTYGROVE: That was Mike Clark. And no, Marcia, I think we've captured it in that we've just gone over them, and you can do them as a whole. Unless you're going to pick and choose, if you're going to adopt all of them, I think you can do that with one motion.

MS. DUSH: Okay. John?

MR. MOORE: I will second that motion.

MS. DUSH: All in favor say aye.

MR. MOORE: Aye.

MR. CLARK: Aye.

MS. DUSH: Is there any further

discussion? I apologize.

MR. MOORE: No.

MS. DUSH: OK. The motion has passed, and we can, at this point in time, I believe we are ready to go onto VSI. Any questions before we move onto VSI?

Pete Rossi, will you manage discussion?

MR. ROSSI: I will. I don't see anybody has raised their hands. If those of you on the phone have any questions, you might t have to unmute yourself by pressing Star 6 to unmute yourself.

MR. GARCIA: And Pete, I do see that there is a hand raised, I just can't see who it is. Okay. This is Nick Garcia and I -- okay. I guess it went away. Never mind. It popped up and then it just disappeared, which is fine.

MR. VIRGILE: This is Rick Virgile, I'm not sure if my hand's working. A question on the -- you had some slides that Andy Corso was going to -- I don't know if he was going to present on legislation and pending legislation. And the only area I really wanted to ask about, if that's on the agenda, is the proposals to the VA offsets that might impact the DOD and also the Coast Guard pension funds.

So I guess the first question is, you know, is there going to be any presentation on the recent and proposed legislation?

MS. DUSH: Pete, is Andy on the line today?

MR. ROSSI: Andy is, and he just appeared. Andy. You're muted.

MS. DUSH: You're muted, Andy.

MR. CORSO: Sorry. This is Andy Corso. I believe that was Rick who asked the question, but I didn't hear the entire thing because it broke up a little bit. Can you summarize it?

MR. VIRGILE: Yeah, I was asking about there's proposed VA legislation that could drop the awards, at least that's the draft of the bill I saw, and I didn't know if you had any information on that or what the status was because indirectly, you know, if their awards go up or down that impacts how much DOD has to pay or Coast Guard, which you know, we have the same benefit plan.

MR. CORSO: I'm not familiar with the legislation you're referring to.

MR. ROSSI: Rick, this is Pete Rossi. Are you referring to the Veterans Benefit Improvement Act?

MR. VIRGILE: Yes.

MR. ROSSI: Okay.

MR. CORSO: Again, I'm not familiar with that. It's not included in the National -- at least the versions of the National Defense Authorization Act we've seen. If it's in a different bill I'd have to look at that. I don't know the specific legislation you're referring to.

MR. VIRGILE: Okay. I can follow up later. I just -- you know, we have a little concern with that. It doesn't appear to be -- I don't know if it will be material, but just more trying to find the status of what -- whether that's going to move forward or not.

MR. ROSSI: You have a second question, Rick?

MR. VIRGILE: No, that was pretty much it.

MR. ROSSI: Okay. Any other questions on military retirement fund?

MS. DUSH: Hearing none.

MR. ROSSI: Going twice.

MS. DUSH: All right. Hearing no further questions, I would like to turn it over to Nick to take us through the results for the voluntary separation incentive fund.

MR. GARCIA: Okay. Thanks. And I'm just going to do a quick introduction of what the VSI program was and then I'll hand it over to our colleague, Hyung J. Ham, who is going to be new this year and we're excited to have a new employee, and he'll be presenting the rest of VSI.

So as a start, for anyone who doesn't remember what VSI is, it was a program established in 1992 to help draw down the military, the size of the military. It was a voluntary incentive that awarded service members that elected it a annuity certain that was paid out two times their years of service and the benefit amount was 2.5 percent of their basic pay times their years of service.

I think one of the keys to this program is that it's no longer has any members joining the program. It stopped allowing members joining in 2001 so it is a closed group. At the time that a service member elected this benefit, they had to have at least six years of active duty as of December 1991, five years of continuous active service at the time of separation. They must have been in a rank that had more people in it than were needed to remain force readiness. And they -- I think a key part of this program is they needed to continue military service in a reserve component. And when Hyung goes into the detail description of the data, we are now starting to see VSI members reaching reserve retirement. And when that happens, they actually have to repay their VSI, all VSI benefits that they had received in the past.

However, they're still allowed to continue receiving it into the future, so it is kind of a funny quirk in the policy there. So it takes the service member to go through a process to stop -- terminate their VSI benefits. So we do see an overlap between the retired pay file and VSI, and we also -- this year we saw a significant number of retired members choosing to terminate their VSI benefit.

Another aspect of VSI is that the VSI is offset by whatever VA disability compensation that member receives. So VA -- and to kind of go into Rick's question, this is another one of those programs. VA disability compensation reduces VSI payments, so it does reduce the liability for DOD. And that's also going to be discussed more on later slides.

And so for here, I'll just hand it off to Hyung.

MR. HAM: Thank you, Nick. I just muted myself. So I'll carry on from this point on.

This page covers new projection and interest assumption for VSI fund. The current interest rate assumption is set at 2.25 percent, located towards the center of the page. The asset and liability durations are 3.1 and 3.5 years respectively. The inflation rates that you see in the second column comes from the blue-chip. The real, that you see in the next column, is the computed difference between the fund yield and inflation.

We assume that available funds are reinvested in two-year bonds, and the appropriate year-by-year yield rates for the inventory assets are presented in the fourth column under the fund yield. As you might have noticed, there is a noticeable spike in the rates from the year 2024 to 2027, and that is due to large amounts of securities invested in longer terms maturing in those years, and that would drive up the percents, for those relative years.

As of those funds are reinvested in two-year bonds, the fund rate pretty much reflects that blue-chip return on new investments shown in the last column, until the last payment is made in 2039.

Do we have any questions regarding this page?

MS. DUSH: Hyung, the only comment that I would make is that, again, we're looking at a fund that has a much, much shorter duration than our military retirement fund, and really focusing on the near term. I think what I'd like to do is call for emotion on the assumption after we look at the valuation results. And at that point, we'll take a motion on the interest rates as well as the COLA an increase on the VA offsets, and the amortization policy.

So at this point, I would say that's just continue on and will perhaps come back to this.

MR. HAM: Okay. Sure. Moving on to the next page. This page shows a snapshot of the VSI population by number of remaining payments, and as you can see, it's broken down into enlisted and officer, and those who had VA benefits offsetting their payments, and those without the benefits. Just to assist in treading this table, the first row, the count of 71, that represents those enlisted members who had the VA offset and their average VA annual pay is in the fourth column, $3,009. And that amount is being offset when they're receiving the annual average -- the VSI gross amounts of those people.

So if this snapshot doesn't show that there is number of payments that's coming in and there are -- you can see there are zeros popping up in 17, 18, and 19 payments, that doesn't mean that their payments stops for those years. IT just represents that there are people who have that exactly 17, 18, or 19 payments remaining. And also, towards the bottom of the page we have a note for the snapshot of the population here, 46 and 1 VSI (inaudible) are included in this table who have their remaining payments. And out of those numbers we have 521 survivors receiving their benefits from a 394 deceased VSI members.

This is a annuity certain, so even though a servicemember passes the payment doesn't stop but it carries on to whoever dependents that they might have. But this excludes 739 eligible VSI members who have a full VA offset, in which case they don't have any remaining payments, so they're excluded. And there are a total of 18,430 service members who have left the VSI since the program began. And the final payment is often partial.

Any questions from here? I know Nick has introduced this in the beginning when he was covering for the history of the VSI funds. But there were 188 members that we expected to show up last year that didn't show up this year, which added to our unfunded -- added to our liability gain, that I will cover in the next page.

So this page shows the change in the unfunded liability based on the current assumptions of 2.25 interest rate and 2.2 percent VA COLA rate and a 1 percent of VA increase assumption. And line 1 shows the unfunded liability of $148.8 million, that's as of October

2018. And line 2 shows a January 1 payment of $31.1 million. This gives an expected unfunded liability of $120.5 million. The total gain this year was 8.9 million. And as you can see a huge chunk of that was attributed to line 82. If you could lower it a bit, Nick.

MR. GARCIA: Pete Rossi's controlling it.

MR. HAM: Oh.

MR. GARCIA: Pete, yeah, thanks, Pete.

MR. HAM: Yeah, thank you. So at line 82 there as an asset gain of 3.9 million and that is due to the lower benefit payments than expected as those members have selected to turn off the VSI payments as they're reaching retirement. And at line B2 there was a 3.2 liability gain, that's in million dollars, due to updated VA award amounts. And at line B5 there was a $1.8 million residual gain due to unexpected data changes.

Any questions regarding this page?

MS. DUSH: Pete, could you scan back up to the top of this page? So again, I would just like to comment again, very short duration program. We're valuing it using a 2.25 percent interest rate. We are assuming that VA offsets are increasing by approximately 2.2 percent per year and that the VA offset is also increasing an additional 1 percent each year due to changes in ratings.

Could I ask my colleagues to comment to see if they have any concerns about this current set of assumptions?

MR. MOORE: This is John, I do not.

MS. DUSH: Mike?

MR. CLARK: This is Mike, I'm fine with them as well.

MS. DUSH: All right. So can I call for a motion to retain these assumptions?

MR. MOORE: This is John. I'll be happy to make that motion to retain the assumptions.

MR. CLARK: I will second.

MS. DUSH: All in favor? Aye.

MR. MOORE: Aye.

MR. CLARK: Aye.

MS. DUSH: Motion has passed, and I think it is now 11:06 Eastern time.

Pete Rossi, can we take a five-minute break? Or, I'm sorry.

At this point can I ask the audience if there are any questions about the VSI program?

MR. ROSSI: And actually, Marcia, I just want to point out that we still need to show you what the amortization payment was.

MS. DUSH: Oh, I'm so sorry.

MR. HAM: Yeah, I can make it real quick before the break if everyone's fine with --

MR. ROSSI: That's also one of the board approvals is the amortization. Yeah. Okay.

MS. DUSH: I apologize, I jumped the gun here. Please.

MR. HAM: So this page shows the amortization schedule at current assumptions that the board has just agreed on. The last year board approved a 2021 contribution of $21.4 million. And this year's valuation gives a 2022 year contribution of $15.7 million and that is 49.8

percent of the projected benefit payments. And this amortization payment is calculated as the percent of benefit payment that draws the fund to zero. And these benefit payments are sent to DFAS to make the decision on those payments to assist with their investment strategy with VSI fund.

And the graph we have towards the end of the PDF, this graph is based on the board approved amortization method which provides a level percent of projected benefit payments, which result in decreasing amortization payments. And you'll need a motion on approving the amortization method as well as other rates that we just agreed on. And also, the payment amounts.

MS. DUSH: To the other board members, any concerns about the amortization method or the payment amount?

MR. CLARK: No. I can move to approve if you like.

MS. DUSH: Please.

MR. CLARK: All right. I'll move to accept the amortization method and if we could scroll up just to remind me what the 2022 payment is. And to accept the $15.7 million contribution for fiscal 2022.

MR. MOORE: This is John, I'll second.

MS. DUSH: All in favor?

MR. CLARK: Aye.

MR. MOORE: Aye.

MS. DUSH: Motion is passed. So now, I would ask if there's any questions of the board or of the staff regarding the VSI program? Okay. Hearing none, I look to Pete Rossi. It is now 10 after 11. Should we take a five-minute break in order to prepare for the discussion of the education benefit fund?

MR. ROSSI: I agree. Pete Rossi here. Let's take a five-minute break. For those who would like to continue on, please if you want to turn off your video and mute your phones, please do. For those who have signed on for education, we are going to commence at 11:15. Five minutes. Thank you.

(Recess)

MR. ROSSI: I'll put up the education slides now. So all of the education board advisors are accounted for. Ms. Patty Leopard is here, Ms. Colleen Hartman is here. Mr. Bill Moorhouse is a carryover from the last meeting as is Mr. Tom Liuzzo.

So Marcia, it's up to you.

MS. DUSH: All right. I'd like to call the meeting back to order. And at this point, I would like to ask my colleague, John Moore, to lead us through the report for the education benefits plan.

MR. MOORE: Yes Marcia, thank you very much. With that, I'll actually turn it over to Rich Allen to take us through the information on the education benefits fund.

MR. ALLEN: Okay. Thank you, Chairman. And welcome everybody. Good morning. I'm going to start off -- I hope everyone has this PDF handout with page 1, which is just an overview of the education benefits. We break them down a couple of ways. There are some that are supported by the VA. There are also some that are supported by the Department of Defense, and then I'll further break them down by benefits that go to active duty members, and benefits that go to reserve members. And you can see by the column headings, you know, what the differences are between the various benefits. I'll take each row; I'll spend a minute or two on each one.

The top row is the Post 9/11 Chapter 33 Basic. That is a VA benefit which means that for purposes of this meeting we're not that concerned with the funding, but it is important because there are members that will use both this benefit and the DOD Chapter 30 Kicker benefit. So there is indirect impact. It's possible for both active duty and reserves to use the Chapter 33 Basic. To be eligible you must serve three years to get a full benefit, or at least 90 days to have a partial benefit. The benefit amount is, essentially, full tuition, housing, and a stipend; although the tuition is capped at what the in-state tuition is for your particular state.

Since it's not a DOD benefit, we're not concerned with the per capital amount or amortization. And the benefit does offer transferability to transfer the benefit to a dependent, either a spouse or child. The member must serve at least 10 years in active duty, they can apply to transfer the benefit after 6 years. This program has been in effect since 2009.

This benefit, essentially, replaced the Chapter 30 Basic, although the Chapter 30 Basic is still in existence. That was a smaller benefit that went to active duty members and you can see, again, there are no per capita amounts or amortization payments. It did not have transferability and it's a VA benefit, so the Department of Defense is not really concerned with the funding.

The third one there is the Chapter 30 Kicker. That is a DOD benefit. This has been in existence since 1985 and it was a benefit then that was designed to enhance the Chapter 30 basic which didn't pay for college in full and was only offered to selected skills and used as a recruiting tool. It was only for active-duty members and when it was offered the member had to sign a contract from -- anywhere from two to six years, depending on what the Department's needs were. The benefit is anywhere between $150 and $950 per month. This benefit is not indexed so whatever was set at the time of enlistment, that's the amount.

The Department of Defense pays for it with a net single premium at the time of entry, so it means when the service member signs the contract and enters the service the Department of Defense has to fund that person's benefits through what would be his entire use of the benefit and that is determined by myself and the Board of Actuaries. If there is an unfunded liability, there is an additional once-a-year amortization payment made by the services. This does have a transferability provision and has been in effect since 1985.

And now, if we go to page 2, here I'll

talk about the Reserve benefits. And these are all funded and paid for by the Department of Defense. The first one is the Chapter 1606 Basic, and I do want to point out there's discussion, but nothing set, that this benefit may move from the Department of Defense to the VA. If it does happen it's probably several years down the road.

The participants are the selected reserves. To become eligible for the benefit you must agree to serve six years and you only have eligibility while you are drilling and only for the first 14 years upon drilling. The amount of the benefit in 2020 was $392 per month. Often you go to college for nine months so it could be that times nine. And that benefit does increase each year by a CPI. Similar to the Chapter 30 Kicker benefit, it's paid for as a net single premium at the time of entry and the amortization payments are also worked similar as the Chapter 30 Kicker which I described. None of the Reserves benefits transferability is an option.

The Chapter 1606 Kicker is similar to

the Basic, however, it is not offered to everybody, only to those with special skills and used as a recruiting tool, unlike the Basic which is offered to everybody. The amount of this benefit is $100, $100, or $350 per month and is on top of the Chapter 1606 Basic. So, therefore, some reserves are receiving both the Basic and the Kicker. And it is also paid for with the net single premium and we do not have an amortization schedule with this. The amortization for the Reserve benefits is all tied to the Basic.

The last one I'll talk about is the Chapter 1607 benefit, also known as REAP. This benefit started in 2004 and ended just recently November 2019; although we're still seeing reports of money coming in, so we don't have final totals on that. But the last benefits should have been paid. These were offered to Reserves who are called up to active duty in a contingency operation for at least 90 days, so not every reserve got it, it depended on what type of service.

This benefit was larger than the Chapter 1606. Its value was either 40, 60, or 80 percent of the Chapter 30 Basic. When it was funded it was also funded the same as the Chapter 1606, a net single premium paid at the time of entry and there was amortization payments associated with it. But again, it's been terminated. I'll talk about it a little bit in the presentation just as we kind of tie it up and sort of sunset it.

Okay. So that's an overview of the different benefits that DOD and VA are responsible for. And by the way, I'll take questions as I go along. So if anybody has any questions, you know, please chime in or let us know.

Okay, continuing on to page 3. And here's where I'll talk about the model and how the premiums and amortization payments are determined. The first thing to note is the methodology is unchanged from last year. Rates have been updated, but the methodology is unchanged, and the methodology was approved at previous board meetings.

I did consider the effects of the pandemic. I did some research on it and determined that I just didn't have enough to make any changes specifically as a result of the pandemic. There could be reasons why members might use the benefit more, or there could be reasons why they might use it less as a result of the pandemic. And since this is a long- term benefit and we're setting rates that affect, you know, future I just didn't think it was prudent to make any changes due to the pandemic.

The way the model works is that at the time somebody enters service, one year later I move them into any one of four categories which you see under the column, Year 1. They either continue in service and do not use the benefit in their first year, they continue in service or do use the benefit. They withdraw and do not use the benefit, or they withdraw and use the benefit.

Each one of these boxes, there's a probability of benefit usage based on historical rates. I'm looking at the most recent 10 years of performance, and that's how I determine the rate that somebody would use the benefit in Year 1. Then, they move from any of the boxes in Year 1, possibly to the same box, possibly to a different box. In Year 2 there are probabilities of continuing in service, probabilities of withdrawing from service. And again, each box in year 2 has a probability of benefit usage.

And then, what I do is I take the probability for the usage for each box times the value of the benefit, discount that back to the time the member would enter, and then sum up all those probabilities and benefit usages and come up with a net single premium. There is a different probability structure for the actives and for the reserves. There're also different probabilities by service. So the members in the Army don't necessarily use the benefit at the same rate as the members of the Navy or the members in active duty is not using it at the same rate as the members in the Reserves.

So that's the structure to determine the next single premium for each service or reserve component. And again, it's not anything different than previous years other than having a new year of information to adjust or update the rates by one year moving forward.

Okay. That's all I have on this page if nobody has any questions. So we can move to page 4. And for this page, I'm going to turn it over to my colleague, Hyung J. Ham, who's going to discuss the interest assumption.

MR. HAM: Thank you, Rich. So the EDF fund is invested in five basic securities so we have a shorter duration compared to other larger funds, retirement fund similar to what Marcia has mentioned for DSI yield rates when she was covering that.

As you can see on the right side that the duration of -- for the normal cost, liability, and assets to be three years. The current assumption from last year's valuation is set at 3.25 percent which is in the single box at the side of the page. Or, this projection it's very similar to other models. We take all of the assets currently inventoried as of the valuation dates; they are projected forward every six months to a year.

And as maturities come due the proceeds are reinvested at the blue-chip five-year rates. And the appropriate yield is computed in the fourth column where it says fund yields for each of the year-by-year rates. The inflation rate in the second column also comes from the blue- chip and the real in the third is the difference between the fund yield and inflation. The blue-chip return on new investment is in the final column. As you can see it starts low and it ultimately grows to be nearly 3 percent. The blue- chip long-term five-year rate is forecasted to be 3 percent, which is what you are seeing in this column.

Then right below, is a 10-year average followed by 10-year fund weighted. It talks about the difference between the average and fund weighted average. They are very close, so it doesn't make too much of a difference. On the right- hand side, we provide two different sensitivities. One at 3 percent and one at 2.75 percent. The normal cost -- per capita cost which represents the contribution costs from the services for a member would go up by.65 percent and 1.26 percent if went to 3 percent, or 2.75 percent respectively.

And this assumes that the 25 percent of all expected annual benefit payments are held into overnight securities. So instead of achieving, ultimately, exactly 3 percent it will be something lower than that because overnights have lower rate than 5-year security rate. So that would be a quick, high-level review on the EBS projection and current assumptions. Any questions?

MR. MOORE: No. Thank you very much, Hyung. I'll pause and ask the board if comments on this assumption, perhaps if there's a thought to change it, we could get a motion to change and then discuss.

MS. DUSH: Similar to what you did this

morning, John, I'll go ahead and make a motion that we move to 2.75 percent for the valuation interest rate. Again, recognizing the short-term nature of this fund, we might even consider even going to 2-1/2, but again, this projection has been done with blue-chip which is a little bit more conservative on its inflation assumption than we have looked at Social Security being, like, 2.4 and so I would move that we go down to 2.75, but keep an eye on it. We may want to further take it down next year, but I would be content to go to 2.75 this year.

MR. HAM: My strategy --

MR. MOORE: Any second?

MR. CLARK: This is Mike. I'm looking at the data that's being shown here, that seems certainly to be a reasonable suggestion, so I second that motion.

MR. MOORE: And just commenting as well, I agree that move certainly gets us more in line with what the portfolio is showing. I mean, I know -- I don't think we've moved this rate as much in the past just because it's a short duration. It's not very sensitive to these changes, but at this point, I think the 50-basis point adjustment is very much warranted. Again, kind of to Marcia's comment, there might be some suggestion we could go even lower.

I will note we're using the -- you know we've got the blue-chip Social Security -- sorry. The blue-chip inflation assumptions in here. If we're using Social Security that would suggest the number would go up a little. So I too would -- I like the thinking. So with that, I will take a vote. For all in favor of moving the assumption to 2.75.

MS. DUSH: Aye.

MR. MOORE: Aye.

MR. CLARK: Aye.

MR. MOORE: All right. Motion has passed and I'll turn it back over to -- I'm not sure who's picking it up. Oh, Rich, is it back to you now?

MR. ALLEN: I am.

MR. MOORE: Yes, thank you.

MR. ALLEN: Okay. Well, thank you, Hyung. We'll continue. Next page.

And I'm going to start with the -- first, the MGIB Selected Reserve Valuation. Okay. Moving on to the next page. And I should say based on the assumption discussion all of the valuations is based using a 2.75 interest rate. This page here discusses data quality. Data quality has been an issue with valuing the education fund over the years. And I receive information from DMDC where I get the individual pieces of information that I use to develop those probabilities, and then true it up to DFAS reporting who will say how much was actually spent.

So I'm going to look at the columns on the far right, and where it says DMDC reports as a percent of total that's how much of the information I'm receiving. So looking at kind of the middle row that's separated dash that's what I received this year I received this year. For the

Basic benefit we received about 92 percent of what we need for the Kicker, about 75 percent in total; 86.6 percent, that's an improvement over the years right below that where it was 77, and in the 60s, or 50s. So the data is getting better. Ideally, we'd like to see that at 100 percent, but at least it's an improvement, which means that the numbers and the valuation will be more accurate than maybe what we've had in the past.

Moving to page 7, and on 7 I'm going to show the number of entrants coming into the program. Again, I have different sources, DFAS, DMDC, and also projections from the DOD compensation office. And just looking at 2019, you can see there are some discrepancies. Some numbers are close between the providers, and some aren't. For example, the basic benefit in 2019 DFAS indicated 30,000 people, but the DMDC file only had about 17,000. The DFAS number matched what Compensation had. Others are closer, others are farther apart.

Just scrolling down to the Kicker,

again, in 2019, there are some big discrepancies. You can see what they are. But by the way, going forward for 2020 and beyond I used what the Office of Compensation gives me as the projection for the amount of people that will be coming into the program in the future.

All right. Move on to page 8. And here it just quickly shows how many people are in the program. First, for the basic benefits, and I sort them by component, and also who are eligible for 33 and who are not. A little bit more than half are eligible for the Chapter 33 Basic benefit, which means if they're not likely to use the 1606 benefit. Also, just looking at the numbers in the columns 2018 and 2019 if you just eyeball them, you can see they're very, very close to each other meaning that there's no change in the number of people. The people that lose eligibility essentially replaced by the new entrants, and it's a stationary population.

The next page I have it also for the Kicker benefits and also a very stationary population with one exception, and that's the Army National Guard at the 350 Kicker where that went from about 9,500 to almost 17,000. So we are seeing -- so that meant in 2019 a lot of 350 Kickers were offered to the Army National Guard, but the rest stayed relatively stationary. The zeros indicate that that component is not using that benefit.

All right. Moving on to the next page, this is what happened in the fund activity for fiscal year 2019, and what we can see, the most significant change occurred with, again, the Army National Guard whereas the others are relatively the same.

And the Guard -- if you can just kind of scroll up a bit, please? It started at about 282 million and ended at 348, and that's because there were, as I kind of described on the previous page, a lot of contributions because of new members. That's that number in the middle, 113, which is about double what the benefits paid. The other components, the contributions and the benefits paid were very in line with each other. So the other components, starting fund and ending fund, were about the same.

Okay, next. If we move to the following page, I mentioned Chapter 1607. This program is closing although there is activity in fiscal year 2020. But in 2019 the fund started, and I'm just going to go to the far-right column, with about 3 million and ended with about a half a million, compared to the 1606 fund this is very, very small. And that's, again, because it's been sunsetting.

Moving on to page 12, and here I'll discuss the gain/loss for Chapter 1606. The numbers you see boxed are any cases where there was a gain or a loss of 10 percent or more. So overall there were some for the Air Force Reserve and the Coast Guard Reserve. Moving down where it says gain/loss (inaudible) for PD benefits; a few of the components had gains.

If it's a negative, it's again and that's because the per capita amount is set one year in advance, and this means if we were to reset the per capita it would have been a lesser amount. So in a sense we -- for those components we overcharged which means that the fund had received more money than it really needed. There's only one with withdrawal experience, that means the withdrawal experience was different than expected.

There was only one with usage rate assumption, that means the usage rate was different than expected. And then, in the bottom section the big one, again, was the contributions with the Army Guard received more entrants than we were expecting.

Okay. Continuing on, and this is an economic page. The Chapter 1606 basic benefit increases each year by the CPIW index. And it's based on a 12-month average, the 12 months ending in June compared to the previous year's 12 months ending in June. So what I do is I look at those last 12 months; at this moment we can go through May 2020. That's what those numbers in bold are actual. Anything 2020 -- June 2020 and later, are only projections so we have a monthly basic benefit of $392, and we're projecting a.9 percent increase. That will take -- means that next year's benefit is projected to be at 397, and the following years the numbers you see in the far right.

I've always used the blue-chip financial forecast to project future CPIs. I'm doing that again, so I think that's an item that needs to be approved by the board, but again, it's the same methodology that's been -- that was done last year and was approved last year.

OK. Continuing on --

MS. DUSH: At this point, we -- John would you like -- can I make a motion to continue to use the blue-chip methodology to project the monthly basic benefits?

MR. MOORE: That's great. Thank you, Marcia.

MR. CLARK: I'll second that motion.

MR. MOORE: Any further discussion?

I'll add again, this is just continuing the methodology we've been using. I think it still is appropriate and so with that, I'll take a vote. All in favor?

MS. DUSH: Aye.

MR. CLARK: Aye.

MR. MOORE: Aye. Thank you. Rich? Rich, are you muted?

MR. ALLEN: Sorry.

MR. MOORE: Okay. Perfect, thank you.

MR. ALLEN: Sorry. Page 14, and this is projections for the year 2020 and the year 2021. The 2020 numbers are partially what has actually happened already through May 2020 and then a projection for the remainder of the year; 2021 is entirely a projection. And the trend is similar to what happened in 2019 where the Army Guard expected to have more new entrants. Its fund amount goes up from the start of the year to the end of the year. The other services are relatively unchanged.

And if we scroll down, we can look at

2021. There we don't see the same thing for the Army Guard but -- and I'll get to this later, but that's because its per capita amounts are projected to be offset. So even though there are a lot of people coming in the amount of money coming in is not as high. What's critical here is the 2022 section because that's going to determine whether there's an amortization payment or whether there are offsets to the normal cost.

Since I'm projecting a surplus for each of the components, you can see all those numbers are negatives, because there's a surplus I'll recommend that the normal costs are offset by some amount to reduce the surplus next year. Or I should say, in 2022. The 2021 per capita amounts have already been set. And I'll get to the actual amounts a little later in the presentation.

Okay. Moving on to -- and here's the projected fund activity for 1607. Fiscal year 2020 will be the last year there is any activity for Chapter 1607. Thus far, 4.2 million have been paid to members for this benefit. Some of it was a reconciliation of earlier years. But it was reported 4.2 million was paid. The program has sunset by now, however, the reporting may still linger on a little bit more. The DFAS people are hoping that by the end of this fiscal year they'll have reported all of the activity and there won't be any more the following year.

Wherever the fund ends up, and right now it's projected to end up negative at the end of September '20, I'm proposing an internal transfer between 1607 and 1606 by whatever is in -- by whatever is owed to the 1607 piece so this will just be zeros across the board. And then 1606 will just continue as the only reserve fund.

MS. DUSH: Rich, this is Marcia. I would like to make a comment that over the last couple of years we had been transferring money from 1607 to 1606 because we believed that 1607 was in surplus, so we were moving money to the 1606 account versus holding it in the 1607. So what we're going to end up having to do is essentially reverse that by bringing money back

here to cover the benefit payments.
So -- but what is upsetting is, essentially, data issues. That all of a sudden, you know, where we thought that the present value of benefits might only be $100,000 or so all of a sudden, we see $4.7 million going out in a year. So again, I guess this kind of amplifies our concern on the board over these last several years that the data for the education benefits fund has been very squishy, a non-technical term here, but it is concerning to see so much money coming back in the -- you know, when the benefits should have been already paid out.

MR. ALLEN: Right. And that is -- I completely agree. And of that 4.7 about 4 million I only learned in April, which was several months after the last benefits were supposed to be paid. And like I said, I don't even know if all of the money attributed to 1607 has been reported. Okay. That's --

MS. DUSH: One of our -- Rich, is we called for an audit of all of the education benefits over the last many years. I know that has appeared in at least the last five reports. So again, I just think that this does merit some examination.

MR. ALLEN: Okay. Thank you. Duly noted. All right. We'll continue on to page 16, and this is -- I talked about the Chapter 1606 amortization payments or normal cost adjustments. This is a summation of that earlier page. We just -- you know, some of the key lines. What's important is to go to the --

We'll start with the third line from the bottom where I show what the surplus is. Again, all the components here are projected to have a surplus on September 30th, 2021 by the amounts you see on that line. Since they're all in surplus there's no amortization payment that would be required on October 1st, 2021 that's why they're all zeros.

And then, recommending an adjustment to the normal cost, essentially charging less than what the true value of the benefit is for fiscal year 2022 by the dollar amounts you see for each component on the page. The surplus methodology I'm recommending, which is the same methodology as in previous years, other than a change of the interest rate, is to set a five-year schedule and use the assumed and approved interest rate, which this year is 2.75 percent. So that -- I believe you need to approve using that same methodology and interest rate to adjust the normal costs.

MS. DUSH: I'll make a motion to approve the methodology to calculate the amortization adjustment and that amortization adjustment is to be used to reduce the normal costs for the basic -- the 1606 Basic benefit.

MR. CLARK: I'll second that motion.

MR. MOORE: Great. Thank you both. Any further discussion? I've -- this continuation of the methodology we've been using so can I -- all in favor?

MS. DUSH: Aye.

MR. CLARK: Aye.

MR. MOORE: Aye. Thank you. Motion is

passed.

MR. ALLEN: And now if we move to the following page, we'll kind of see the result of doing that. The top line shows what the projected normal cost contributions will be before any offset. So for example, the Army Guard, about 46 million. The total amount to be offset which is just the numbers from the previous page in the case of the Guard, 32 million.

I show what the percent of the cost to be offset are, and then whatever that total amount to be offset is divided by the projected number of entrants in fiscal year 2022, and then you get the offset per entrant, which is either the amount offset divided by the entrants or, in some cases, the total amount of what the normal cost would be. Some you can see say partial, and some you can see say full. If it's a full offset, then there'll be a zero-dollar normal cost.

Okay. If we move to page 18, we'll see what the actual amounts are per component. I show what it was in 2021 and what it is in 2022. What you're most interested in is the bottom line, per capita amount. And you can see what I'm saying that using all this methodology and formulas what they should be in 2022, Army Guard, a basic normal cost of -- per capita amount of 647 after the offset is applied. And so on across the board, and as I mentioned before some of them will have a zero normal cost.

Okay. Moving on to page 19. And here's what the per capita amounts will be for the various Kickers. None of these will have a normal cost offset. The entire normal cost is applied to the basic. And the reason that one component is in a box is that's the only component that's been using the $100 Kicker. Although, any of the components could start using it, thus far, only the Army Reserve is using the $100, and that's the per capita amount you see there.

Page 20, if we move on, will have the same thing for the $200 Kicker and the boxes are the components that use that, and then you can see the per capita amounts there. There are obviously more because it's double the benefit and the following page is the 350 Kicker. And same thing; different components use this benefit and larger per capita amounts, again because it's a larger basket.

Okay. Moving on to page 22. And this is just projections for your information of where I think the fund is going to be between now and the year 2025. How much will be paid out in benefits, what the balance will be at the end of the year. If we scroll down a little bit more. What the unfunded liability or surplus will be at the end of each year. And you can see because of the offsets I'm projecting that the surplus will come down and come down quite a good pace from now until 2025.

We can move on to page 23 where there some more projections, the amount of money that will come in from per capita contributions, what the per capita adjustments will be, and what the interest earned will be by component. Okay.

And we can move on to page 24, and this

is just for historical information, how much has been contributed to the fund, and in the following pages, it's what has been paid out in benefits for Chapter 1606 benefits. It's been a successful program. Since the start of the program over $4 billion has been paid out to Reserve members. Okay.

And it said that's all I have on the Reserves. If there are no questions or comments we can move on to presentations for the actives.

MS. DUSH: Rich, this is Marcia.

MR. ALLEN: Yes.

MS. DUSH: I would just ask that you folks keep us informed about the discussion with VA regarding the transfer of those 1606 Basic benefits to the responsibility is for VA.

MR. ALLEN: We will certainly do that as we learn more. I've been attending meetings and as I learn more in this progress as I will certainly do that.

Okay. We'll continue with the Chapter 33 active duty benefits and move onto the next page. At first, this will be an analysis of the data quality, which as I've discussed, has been an issue. And again, I get information from DMDC and I get total dollars spent by DFAS. Looking at that column, DMDC reports as a percent of total. In the most recent year for the three DOD services that use this, they've been in the 80 percent, 85 percent or so. The Coast Guard, the data is very sparse, under 10 percent has been reported. If you look at that, how that compares to recent years the three previous years before this was actually a little better than what we just got. It was actually as high as 96 percent. That bottom number is the year 2015. That year only 15 -- we only received 15 percent of the information that we needed. I don't show it here, but in the years before 2015, 2014, '13, '12, et cetera, the data was also similar to that 15 percent. So there was a period of time where the data was very weak, and it led to not necessarily contributing the right amount or charging the right amount and you'll see there are some funding issues as we go on in this presentation.

MS. DUSH: Rich, Marcia again. You believe that the DFAS reports are accurate?

MR. ALLEN: Right. What DFAS will state is -- they're the accounting piece of this and they'll state, this is how much money was paid out to beneficiaries, or this is how much money was taken in as income and what the actual balance is of the fund. The DMDC is individual data and that's where I develop the probability models from, where DFAS it's just simply one number, this is how much money is in the fund.

So I need the DMDC individual data to develop the rates. I do use a true-up method when I don't have complete data, but I don't necessarily -- because it's missing you know, I may be truing up wrong categories. You know, one category too much and another category too little.

MS. DUSH: The data from DMDC, that's coming from VA because VA is processing the benefits; is that correct?

MR. ALLEN: That is correct.

MS. DUSH: So --

MR. ALLEN: But there's a lot of players involved with the education benefits and as a result, there's -- it's complex and not all the information necessarily gets to me. It's -- as you can see it's a lot better than it was. We've worked hard to make those improvements, but there's still that period when there was some missing information and since I develop my rates using historical information, you know, over a 10-year period there's a chunk in there where there's some missing information.

MS. DUSH: All right. So again, I think one of the issues that we keep leading with is for improved data. You know, garbage in, garbage out. So if we really need good data to do a good job with these valuations.

MR. ALLEN: And there's a snowball effect. Even if the data is good now, you could say there were mistakes made years ago that are still affecting what's going on -- or what the fund looks like today.

MS. DUSH: Thank you.

MR. ALLEN: All right. We'll move to the next page, please.

And this just shows who's using the benefit, as I mentioned at the very beginning, unlike the Reserves, members can transfer the benefit to a spouse or a child. You could also use the Chapter 30 Kicker with either the Chapter 30 Basic or the Chapter 33 Basic. This shows that the majority is used by the member and used with the Chapter 33 Basic, that's at 85 percent. And roughly 10 percent last year was used by the spouse and the child. That may grow, especially as children -- more and more of the children get older and approach college years.

If we scroll down to the distribution of the benefit, comparing the DMDC and the DFAS reporting, they're very much in line with whether it's used with Chapter 30 or Chapter 33. They're close with whether it's being used by the member or the dependent, but there's a huge disparity between which dependent is using it between the spouse or the child. You can see the big differences between the DMDC reporting and the DFAS reporting. I'm going on the assumption that the DFAS numbers here are correct. I've heard anecdotally that most of the dependent use is by the child, and not by the spouse. So I use that 15.2 child number in the model.

Okay. Moving on the next page. And if you can scroll down to the more recent years.

This shows the activity of contributions made into the fund for new entrants. And you can see the last year there was any contributions was 2012. So in other words, the services while they used the program a lot through 2012 have not been using the Chapter 30 Kicker benefit since then. There's been no new people coming in.

However, anybody who came in before that and still has eligibility can continue to use the benefit. There's been no legislation that says they can't use the benefit, they just have chosen, for their own reasons, to not use the benefit any longer.

All right. If you move to the next page, and again, scroll down to the more recent years. So although we don't have any new people coming in, the people that have been in who came in 2012 or earlier are still using the benefit. The first column is Army, they use the program the most. And in 2019 they paid $50 million in benefits to their people. The fund, in total, paid $70 million in benefits. It's trending down but 70 million a year is still a significant amount.

And move to the next page. Here's just the number of people in the program by the different programs that are offered. The Army two through six years et cetera. Less people in 2019 than in 2018 because some members lost their eligibility and there were no new people coming in. So this is going to continue to trend downward as long as the services do not offer any new entrants.

I will say it went down from 163,000 to about 139,000 from last year to this year. That was a bigger drop than I was expecting, but that's the number of people that are on the file. Okay. I won't go over the remaining part of the page, but it's there for anybody to look at later.

So we move to page 32. Here's -- this just shows the transferability potential impact. And if we look at that bottom row, percent of eligible members with potential transferability. Depending on the service there is about 20 percent of the members either applied for or been offered transferability or are still eligible to apply. So what that means is the -- even if we don't have new entrants because people can transfer the benefit to their child, who at this point may be years from college, there will be benefits that will be paid in Chapter 30 for quite a while as long as things continue as they are.

Okay. If we move to page 33. And this is what happened in fiscal year 2019. I'll just go through the far column. The fund started with 438 million. The present value of benefits was higher than that, although in a couple of services the present value was higher than the amount in the fund meaning it was overfunded. There were some amortization payments made. There were no per capita amount contributions. Benefits were paid in the amount of 70 million. The fund earned 11-1/2 million in interest, so it has a lower ending fund than it did as a starting fund. And this is a trend that I currently expect to continue, especially if there are no entrants that come into the program.

Okay. If we go to the next page. And this is just projected activity for 2020 and 2021. Again, I expect the fund to end with less money than it starts out with because benefits are paid and there are no contributions for new people coming in. So 2020, it's projected to go from 396 to 376. If we move down on the page, 2021 expected from 376 to 343.

And then, if we look at where things will be in 2022 -- if we could just scroll down a little bit there. We expect the fund to have -- and I'll take this service by service. The Army

265 million but yet it's present value, or liability only 188 million. In other words, projecting it to have a surplus of 77 million at the start of fiscal '22; projecting the Navy to be in an unfunded position at 7.7, the Marine Corp to be in a surplus of about 10 million, and the Coast Guard to be in a surplus of 266,000. So that's where I expect things to be at the start of fiscal year 2022.

Unlike the Reserves, if this was -- if we were expecting new entrants, we would offset the normal cost by some amount to reduce the surplus. We are not expecting any new people to come in in 2022 or even the years after that, which means as things stand right now there is no mechanism to reduce the surplus in the services that have one.

Okay. We can go to the next page if no questions or comments. Here's the gain/loss analysis for the Chapter 30 in fiscal year 2019. Again, the box numbers are the ones with the change of 10 percent or more. And I mentioned that there are fewer people on the file, that's where it says withdrawal experience and census changes. So there was a gain for the services there, in the case of the Army, a gain of 57 million, that's why their surplus is now as high as it is. The other services had some gain but not as high. And that's the last item from this page.

Okay. So if we move to page 36. This is a summary of the earlier page. If we just look at the bottom three lines again. You know, I show the surplus -- the one service that's in an unfunded position, I'm recommending an amortization payment of 1.6 million using the same methodology that's been used in the past and the same methodology that we talked about for the Reserves, where a five-year schedule and the approved interest rate of 2.75 percent.

MR. MOORE: Rich, can I, for the board, get a motion to approve the amortization method and the resulting payment for Navy? I'm sorry, that's John Moore.

MS. DUSH: This is Marcia. I'd like to make the motion to support the current amortization methodology as well as the amount of 1.630752 for the Navy for payment on October 21. October 1, '21.

But I would like to make a couple of comments: And that is the fact that this program is not being used -- well, first of all, the fact that the program is not being used and the showing that the other services are in surplus, it seems that we should be looking perhaps for ways of deploying that surplus. And so I would ask, you know, over the next year for the OAC staff to perhaps discuss and talk to the appropriate advisors and perhaps garner legislative support for some method to be able to utilize the surplus, particularly the Army surplus.

But I add a cautionary point which is that a lot of that surplus is due to a data change, or you know, data changes between last year and this year. And so just like what we saw with 1607, where all of a sudden people came out of the woodwork. I have some concerns about, you know, if we came up with a method of distributing the surplus back to the services and all of a sudden, a bunch of people came back on the file that we'd be in an unfunded position.

So I guess I would think that we need to proceed carefully, but I do think we do need to think through what to do with the surplus amounts here. So with that, again, I move that we continue on with the amortization methodology and the 1.6 million payment for Navy on October of '21.

MR. CLARK: I'll second that motion and also agree with agree with your observations, Marcia, about sort of the structural surplus and data concerns.

MR. MOORE: Thank you. Along those lines too, the gain this year just doesn't feel permanent to me at this point. So -- but trying to -- John Moore speaking.

The gain -- the shift in position this year and the gain it will be interesting to see if it holds. Again, it seems like a case where -- Marcia, you're saying we had in other areas where people were coming out of the woodwork, this just kind of feels like they ran into it. But we'll see. So anyway I too agree with looking at -- but considering how this -- if we end up at a surplus at the end of the day how it can be dealt with.

So with that, all in favor of the motion say aye.

MS. DUSH: Aye.

MR. CLARK: Aye.

MR. MOORE: Aye. All right, thank you. Rich, back to you.

MR. ALLEN: Okay. We can move to the next page. And in a way, you just talked about this page. This is just a 10-year projection of where I expect the Army to be. I'll just take it across starting where it says, "Funds Start of the Year." I expect the fund to decrease each year, as you can see. No amortization of PCA contributions for the next 10 years, benefits decreasing from 40 million in 2020 down to about

11 million in 2030 less interest earned.

The fund will have less money each year and the liability will decrease. However, the amount of the unfunded liability will slowly but steadily increase from where it is now and 10 years from now, projecting that to be about 98 million. So that -- you know the -- just echoes what you said and you know, when I was going over the earlier pages that the fund is headed -- is unfunded -- I mean is in a surplus and the surplus may grow unless things unexpectedly happen.

Okay. And we'll just go to the next page, I have a similar page for each of the other services. The Navy, because they're in an unfunded position, if you look at that far-right column it's unfunded. If we make small amortization payments each year, we'll reduce that unfunded amount and by 2030 it'll be about 1 million less than it is now. So that's kind of where it needs to be if things stay kind of steady.

Go to the next page where we have the

Marine Corps 10-year projection. And there, around 9, 10 million in surplus now projected to slightly grow but 10 years be similar to where they're at now. About 12-1/2 million in a surplus position.

And then the following page which is the Coast Guard. Not much of a change from around 260,000, that's in thousands, not millions, to about 340,000 in the year 2030. So similar stories the Coast Guard and Marine Corp as compared to the Army but just in -- but with lower numbers.

And then if we move to page 41. Although we don't expect new entrants, legislatively they could still happen in and any one of the services could change up their philosophy and start offering them, so we do have to provide normal costs. Because I wasn't expecting it, I didn't spend that much time in the presentation, but I did develop normal costs based on the model presentation that I made at the start of this where I set the probabilities. So here are the normal costs, and these will be forwarded to the key Department of Defense officials, again, if entrants are suddenly being offered.

And then moving to the last page, this is an entirely different a much smaller program and a much older program. The post-Vietnam era involuntary, involuntary separates. There's still little activity for this even as late as 2020 and the way this program works it's a little different than the others.

Benefits are paid during the year and then as a projected fund balance based on the benefits that were paid during the course of the year. And then that amount has to be paid by the services. So what I do is I look at how much has been paid through May of this fiscal year, project it out for a full year and with a little bit of interest that the fund would earn have where I expect the balance to be on October 1st, 2020, and those are the numbers you see.

Those are actual numbers, they're not in millions, they're not even in thousands. So it's very, very little but we are requiring payments of about 29,000. And as with the others, the methodology I sued here is the same as the methodology I used last year, just changing the assumed interest rate.

MR. MOORE: Rich, do you need the board to make a motion on this?

MR. ALLEN: Yes, to approve using the same methodology and the assumed interest rate.

MR. MOORE: So this is John Moore. Could I get a motion from one of the board members?

MR. CLARK: Yeah, this is Mike. I'll move to adopt the -- to continue the same methodology and to adopt the use of the interest rate.

MS. DUSH: I will second.

MR. MOORE: Great, any further discussion? All right. All in favor say aye.

MS. DUSH: Aye.

MR. CLARK: Aye.

MR. MOORE: Aye. Wonderful.

MR. ALLEN: Okay. That concludes my presentation of the education benefits to the Department of Defense.

MR. MOORE: Why don't I pause and see if we have any questions with respect to the education benefits fund.

(Pause)

MR. ROSSI: You guys have -- no signs of questions. I do not see any. If anybody does, and again if you're on your phone, if you're calling in, please press star if you would like to ask a question because you've likely been muted. Going once, twice, sold.

MR. MOORE: Marcia, I'll hand it back over to you.

MS. DUSH: Unless there's any other discussion, I think this closes -- this ends today's meeting of the Board of Actuaries for the Department of Defense for both the military retirement fund and the education benefits fund.

Thank you very much, and again, my thanks go to Pete Zouras and all of the staff of

OAC for all of the support they've provided to the board in order to get us ready for this meeting. And I thank you very much.

Pete, are you going to keep the line open for a little bit for any follow-up or?

MR. ROSSI: I am going to keep the line open until the only person left on is myself or a few minutes goes by until my lunch comes. So yeah, we're going to keep the line open if anyone wants to stay on and have some follow-up, unofficial questions. Our usual time with the board in the quote pit, if you remember back to your college days when you'd attack the professor after class, now's the time to do so.

And board members, we do hope you'll stay around as well.

SPEAKER: Hey, Pete, does that mean you could stop recording the meeting too?

MR. ROSSI: I am going to stop recording the meeting right now. Thank you, yes.

COURT REPORTER: This is the court reporter; shall I go off the record?

MS. DUSH: I believe the official meeting is over.

AUTOMATED VOICE: This meeting is no longer being recorded or transcribed.

(Whereupon, at 12:20 p.m., the PROCEEDINGS were adjourned.)

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CERTIFICATE OF NOTARY PUBLIC

COMMONWEALTH OF VIRGINIA

I, Mark Mahoney, notary public in and for the Commonwealth of Virginia, do hereby certify that the forgoing PROCEEDING was duly recorded and thereafter reduced to print under my direction; that the witnesses were sworn to tell the truth under penalty of perjury; that said transcript is a true record of the testimony given by witnesses; that I am neither counsel for, related to, nor employed by any of the parties to the action in which this proceeding was called; and, furthermore, that I am not a relative or employee of any attorney or counsel employed by the parties hereto, nor financially or otherwise interested in the outcome of this action.

Mark Mahoney

Notary Public, in and for the Commonwealth of Virginia

My Commission Expires: August 31, 2021

Notary Public Number 122985

MARK MAHONEY
NOTARY PUBLIC
REG# 122985
MY COMMISSION EXPIRES
08/31/2021
COMMONWEALTH OF VIRGINIA