2016 Report to the President and Congress

Submitted by the Department of Defense
Board of Actuaries

December 2016

The estimated cost of this report for the Department of Defense is approximately $15,000. This includes $0 in expenses and $15,000 in DoD labor.

DEPARTMENT OF DEFENSE
BOARD OF ACTUARIES
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December 2016

President Barack H. Obama
The White House
Washington, D.C.

The Honorable Paul Ryan
Speaker of the House of Representatives
Washington, D.C.

The Honorable Orrin Hatch
President Pro Tempore of the Senate
Washington, D.C.

Dear Sirs:

We have the honor of transmitting to you the 2016 Report of the Department of Defense (DoD) Board of Actuaries. The report includes information on the status of the Military Retirement Fund (MRF) and recommendations for changes that the Board considers appropriate and necessary to maintain it on a sound actuarial basis, in compliance with Section 183 of Title 10, United States Code.

The Board also comments and provides recommendations with respect to the Education Benefits Fund (EBF) and Voluntary Separation Incentive (VSI) Fund. The report does not include detailed information on the status of the EBF or VSI Fund. Such information is available from the DoD Office of the Actuary.

Respectfully submitted,

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A. SUMMARY

Background

The DoD Board of Actuaries consists of three members appointed by the Secretary of Defense to staggered 15-year terms (10 USC §183). The Board is required to report at least once every four years to the President and Congress on the status of the Military Retirement Fund (MRF) and may include recommendations related to the Education Benefits Fund (EBF) and the Voluntary Separation Incentive (VSI) Fund. The "quadrennial" report is to include any recommendations the Board believes appropriate and necessary to maintain the funds on a sound actuarial basis. This is the eighth such report for the MRF, the third for the EBF, and the second containing recommendations for the VSI Fund.

Actuarial Costs

Section B is an introduction to the report. It also notes that this report does not include a comprehensive listing of the various actuarial costs determined each year and directs the reader to the documents published by the DoD Office of the Actuary for such information.

Financial Operation

Section C provides an overview of the financial operation of the MRF since 1984. Each year, DoD pays the MRF's normal cost for benefits being earned currently, except that Treasury pays the portion of the normal cost attributable to the concurrent receipt provisions of P.L. 108-136. Treasury pays an additional amount to amortize the unfunded liability. These contributions go into the MRF from which benefits are paid. We believe that the MRF is in sound condition but we recommend several changes, as noted later.

Recommendations

Section D describes the Board's recommendations:

MRF Recommendations

1. Congress should consider rescinding either the availability of lump sums or the use of personal discount rates

2. DoD, not Treasury, should pay for all benefit increases

3. Congress should consider all costs when legislating benefit changes

4. Responsibility for Concurrent Receipt normal cost should be moved to DoD

5. Treasury's payments towards MRF actuarial gains and losses should be phased out

6. The rate of disability should be studied to set proper assumptions

7. Congress should consider alternative normal cost funding methods

8. DoD should make additional investments in the Office of the Actuary's actuarial software infrastructure

EBF Recommendations

9. Accounting for VA and DoD education benefits should be consistent

10. Education Benefits Fund data should be improved

11. The Education Benefits Fund should be audited

12. Reversion of surplus assets from Chapter 1606 and 1607 benefit plans should be permitted

VSI Recommendation

13. Congress should make minor revisions to VSI Fund enabling legislation

General Recommendation

14. Use of sunset provisions should be curtailed

B. INTRODUCTION

In September 1983, Public Law 98-94 changed the accounting basis for financing the Military Retirement Fund (MRF). Effective October 1, 1984, DoD began charging the costs of military retirement benefits on an actuarial basis as benefits are earned rather than on a cash basis as benefits are paid. As part of this change, a three-member Board of Actuaries (Board) was established to provide technical advice and perform other functions relative to the financial operation of the MRF (see Appendix A). Among those functions is the requirement to prepare a report at least every four years to the President and Congress on the status of the MRF, with recommendations for such changes as are necessary in the Board's judgment to maintain the MRF on a sound actuarial basis.[1]

The Board issued its first report under this requirement in September 1988, and has issued a subsequent report every four years thereafter. In this eighth report, the Board reviews the financial status of the MRF and comments on some aspects of the system which the Administration and Congress may want to consider changing to keep the MRF on a sound actuarial basis. The text of this report does not necessarily reflect the views of any staff members, DoD officials, or the Administration.

This report does not contain a comprehensive listing of the various actuarial costs determined during the past 32 years, nor of the technical bases underlying these calculations. Such information is readily available from other sources, having been regularly documented and published by the DoD Office of the Actuary in printed form and on its website at http://actuary.defense.gov/.

[1] P.L. 110-181 changed the report parameters from a requirement to include "recommendations for such changes as in the Board's judgment are necessary to protect the public interest and maintain the Fund on a sound actuarial basis" to requiring "recommendations for modifications to the funding or amortization of [the Fund] as the Board considers appropriate and necessary to maintain [the Fund] on a sound actuarial basis."

C. FINANCIAL OPERATIONS OVERVIEW FOR MILITARY RETIREMENT FUND

This section presents an overview of the financial operations of the Military Retirement Fund (MRF) through September 30, 2016.

1. Nature of the MRF and Financing Procedures

Since October 1, 1984, the MRF has operated under a financing procedure by which the MRF is paid monthly contributions equal to the system's "normal cost" plus annual installments to amortize its "unfunded accrued liability."[2] The MRF is invested in Treasury debt securities that generate interest income. Benefit payments are disbursed from the MRF. Based upon methods and assumptions approved by the Board, the DoD Office of the Actuary performs all the detailed studies and calculations used in the financing procedure and prepares the associated written reports.[3]

Previous reports have noted that the establishment of the MRF does not represent actual advance funding. Real advance funding could be achieved by investing the assets outside the US Unified Budget, for example, in stocks or corporate bonds (as in the Retirement Funds of the Federal Reserve or FDIC), or in bonds of state and local municipalities or federal government agencies (like Fannie Mae, Freddie Mac, or Sallie Mae). Instead, the accrual accounting procedure now in place is essentially an internal cost accounting system. While the nation has not really set aside money to pay the benefits of those who have served in uniform, the MRF can be viewed as earmarking future tax receipts for the benefit of military retirees. As such, the existence of the MRF promotes a measure of "psychological security" for military members.

Two common misconceptions about the MRF are:

1) The MRF represents government tax receipts that have been accumulated in the past. Actually, the MRF represents future tax receipts that will be allocated to pay principal and interest on government bonds being held by the MRF.

2) The actuarial soundness of the MRF can be measured by prospective short-term (or medium-term) cash flows. Rather, the entire present value of the liabilities must be

[2] The **normal cost** is the level percentage of basic pay that would be necessary to finance the benefits payable to a group of new entrants into military service, assuming it is paid into a fund during each year of service of such group and the fund is invested in interest-bearing securities. The **accrued liability** is the theoretical amount that would be in the fund at any given time for a group of participants if normal costs had been paid throughout all past years of service and all demographic and economic assumptions had been realized. Because no advance funding was done before Oct. 1, 1984, the accrued liability on that date is called the initial unfunded accrued liability.

[3] Complete details of these valuations are contained in reports published annually by the DoD Office of the Actuary. The normal costs, unfunded accrued liabilities, and related figures presented in the reports are calculated using methods and assumptions approved by the Board of Actuaries. The texts of the reports do not necessarily reflect the individual or collective views or endorsements of Board members.

compared to the sum of the MRF and prospective contributions. A year-by-year projection of cash flow is also needed to measure the MRF's ability to pay benefits every year.

The current financing procedure, although carried out by allocating no more tax dollars than needed to pay benefits to military retirees as they come due, has nonetheless contributed to a more accurate allocation of resources within the defense budget and to formal quantification of the government's obligation to pay retirement benefits to military members and eligible survivors.

2. Progress of the MRF: Payments by DoD and Treasury

The progress of the MRF for each year since inception is summarized in Table 1. Administrative expenses are not paid from the MRF, and thus are not reflected in the calculation of normal costs or actuarial liabilities.

TABLE 1
Military Retirement System - Flow of Plan Assets
(In Billions of Dollars)

Fiscal Year	Fund Balance, Beginning of Year	Contributions Received			Investment Income	Benefit Outlays	Fund Balance, End of Year
		From DoD, for Normal Costs	From Treasury, for Normal Costs	From Treasury, for Accrued Liability			
1985	$0.0	$17.0	---	$9.5	$1.1	$15.8	$11.8
1986	11.8	17.4	---	10.5	2.5	17.6	24.6
1987	24.6	18.3	---	10.5	3.6	18.1	38.9
1988	37.3	18.4	---	10.3	5.0	17.5	53.4
1989	53.4	18.5	---	9.8	6.1	20.2	67.6
1990	67.6	16.3	---	10.6	7.3	21.5	80.4
1991	80.4	17.2	---	10.8	8.5	23.1	93.7
1992	93.7	16.3	---	11.2	9.4	24.5	106.1
1993	106.1	13.2	---	12.3	10.0	25.7	115.9
1994	115.9	12.8	---	11.9	10.3	26.7	124.2
1995	124.2	12.2	---	11.5	10.9	27.8	131.0
1996	131.0	11.2	---	10.7	11.3	28.8	135.3
1997	135.3	11.1	---	15.2	11.9	30.2	143.3
1998	143.3	10.4	---	15.1	12.2	31.1	149.9
1999	149.9	10.4	---	15.3	12.4	31.9	156.0
2000	156.0	11.4	---	15.3	12.7	32.8	162.7
2001	162.7	11.4	---	16.1	13.2	34.1	169.2
2002	169.2	12.9	---	17.0	12.4	35.1	176.5
2003	176.5	13.7	---	17.9	10.0	35.6	182.6
2004	182.6	14.1	---	18.2	10.1	37.0	188.0
2005	188.0	15.0	$1.5	21.4	10.9	39.0	197.9
2006	197.9	13.9	2.3	23.2	12.3	41.1	208.4
2007	208.4	14.5	2.5	26.0	10.3	43.5	218.2
2008	218.2	16.1	2.8	46.2	15.6	45.8	253.1
2009	253.1	17.5	3.7	51.1	2.9	50.0	278.4
2010	278.4	20.4	4.5	58.6	10.4	50.6	321.7
2011	321.7	21.0	5.0	61.4	18.0	51.0	376.1
2012	376.1	21.9	5.4	64.8	12.5	52.6	428.0
2013	428.0	20.5	6.8	67.7	15.0	54.5	483.5
2014	483.5	20.5	6.3	72.9	17.1	55.4	545.0
2015	545.0	19.7	6.2	75.6	10.8	56.8	600.6
2016	600.6	19.3	6.9	79.3	15.5	57.2	664.3

Each year's normal cost is determined by applying normal cost percentage (NCP) factors to the actual basic pay throughout the year for full-time and part-time personnel. (Full-time personnel include active duty members as well as full-time reservists; part-time personnel include part-time reservists.) In 2016, full-time personnel accounted for approximately 92 percent of the total DoD normal cost (the portion related to part-time personnel was previously elevated due to increased mobilizations). The NCPs from 1985 forward are presented in Table 2. See Appendix B for a brief description of the factors which have caused the percentages to change over time.

TABLE 2 Normal Cost Percentages				
Fiscal Year	Normal Cost Percentages (%)*			
	Full-Time Personnel		Part-Time Personnel	
	DoD	Treasury**	DoD	Treasury**
1985	50.7%	---	50.7%	---
1986	50.7	---	50.7	---
1987	52.2	---	26.4	---
1988	51.2	---	26.1	---
1989	50.2	---	25.7	---
1990	43.9	---	13.4	---
1991	43.2	---	13.3	---
1992	42.7	---	13.3	---
1993	36.4	---	10.6	---
1994	36.0	---	10.6	---
1995	35.5	---	10.5	---
1996	32.9	---	9.6	---
1997	32.6	---	9.6	---
1998	30.5	---	8.8	---
1999	30.2	---	8.7	---
2000	31.8	---	9.8	---
2001	29.6	---	14.1	---
2002	30.3	---	14.4	---
2003	27.4	---	14.6	---
2004	27.1	---	16.0	---
2005	27.5	3.3%	16.7	0.8%
2006	26.5	4.9	16.7	1.4
2007	26.5	4.9	17.5	1.5
2008	29.0	5.0	19.1	1.5
2009	29.4	7.0	21.1	2.3
2010	32.4	8.0	24.5	2.8
2011	32.7	8.2	24.4	3.2
2012	34.3	8.8	24.3	3.6
2013	32.1	11.2	24.4	3.2
2014	32.4	11.7	24.5	2.9
2015	32.2	11.8	22.5	2.7
2016	31.4	13.1	23.0	2.9
2017	28.9	12.8	22.8	3.3

* Separate NCPs for full-time vs. part-time personnel were required beginning in 1987.

** Beginning in FY 2005, part of the total NCP shown in the table is paid by Treasury, representing the cost for the concurrent receipt benefits enacted in P.L. 108-136.

Each year, the Board reviews actuarial assumptions and methods to consider possible revisions. The effective date of a resulting change in contribution rates is scheduled to accommodate DoD's budget cycle. Contribution rates are also changed to keep pace with any benefit changes enacted. A history of the changes affecting the NCPs is shown in Appendix B.

The implemented NCPs represent a weighting of NCPs appropriate for personnel under different benefit tiers, based on the proportion of salary in a given year related to personnel under each tier. Benefits were reduced for new entrants into the military in 1980 and 1986, although the pre-1986 benefits were partially restored by the FY 2000 National Defense Authorization Act (2000 NDAA), as noted below.

The National Defense Authorization Act for Fiscal Year 2016 (2016 NDAA) included modifications to the MRF to be effective January 1, 2018. Those members currently serving with less than twelve years of service at January 1, 2018, will have the option of remaining "grandfathered" in their current benefit tier or choosing the new retirement benefit structure. All members who join the Military Service on or after January 1, 2018, will be included in the new retirement benefit structure.

<u>"Grandfathered" Benefit Tiers</u>

1. Personnel who entered the military before September 8, 1980, receive benefits based on their final day's basic pay.

2. Personnel who entered on or after September 8, 1980, receive benefits based on the average of their highest 36 months of basic pay ("Hi-3").

3. Some personnel entering the military between August 1, 1986, and December 31, 2002, are expected to retire under a substantially less generous benefit formula than will members in the first two groups. The 2000 NDAA gave military members under the least-generous retirement benefit formula, after completing fifteen years of service, the choice of (1) remaining under that benefit formula and receiving a $30,000 Career Status Bonus (CSB) or (2) moving to Hi-3.[4] The $30,000 bonuses are paid from DoD's annual military personnel appropriations, not from the MRF. The 2016 NDAA eliminated the option to make new CSB elections, effective January 1, 2018.

<u>2018 New Retirement Benefit Structure</u>

4. The MRF will allow new members to contribute to a portable Thrift Savings Plan with matching contributions from DoD's annual military appropriations, not from the MRF. The MRF retirement benefit multiplier will be reduced from 2.5% of base pay to 2.0% of base pay for each year of service. In addition, a partial lump sum feature has been added to the MRF. All members who join the service on or after January 1, 2018, will participate in this benefit tier. Members currently serving on January 1, 2018, who choose to participate in this benefit tier will have the 2.0% of pay multiplier apply to all years of service when calculating their retirement benefit.

[4] The option to elect the $30,000 bonus only applies to full-time personnel; hence, most part-time personnel are now covered by the second (i.e., Hi-3) retirement benefit formula.

As a result of the benefit changes that were effective before 2018, normal costs have been successively smaller than they otherwise would have been. Each year, a growing proportion of the non-retired military population is covered by less-generous benefit formulas which, absent the CSB, would lead to declining NCPs for the composite population. However, the effect of declining CSB election rates may be to counteract somewhat the prior tendency toward reducing NCPs.

The 2018 New Retirement Benefit Structure is also expected to reduce NCPs. An estimate of the effect of this new tier has already been reflected in the 2017 NCPs. However, because of questions on how to implement the partial lump sum feature in the new tier, the lump sum feature has not been reflected in the 2017 NCPs included in this report. (See recommendation #1.)

Payments to amortize the system's unfunded accrued liability have changed over the years for two reasons. First, these payments are set to increase at the same rate as the assumed basic pay increases. Second, amortization payments are adjusted each year to reflect, on a gradual basis, the impact of changes in actuarial assumptions, changes in benefit levels, and various actuarial "gains and losses"—otherwise known as experience "gains and losses" (i.e., deviations of actual from assumed experience).

The Board reviews and approves assumptions with respect to economic factors (future interest earnings, salary increases, Consumer Price Index changes), and demographic factors (separations from service, mortality and disability rates, etc.). Deviations of actual from expected experience are sure to occur, particularly over a short time. Less variation is expected in the cumulative results over a longer time. When trends begin to emerge, revisions to the assumptions may be in order.

3. Funding of the Accrued Liability

During the current system's 32 years of operation, the DoD Office of the Actuary has performed annual actuarial valuations under Section 1465 of Title 10, U.S.C., in accordance with methods and assumptions approved by the Board. Payments for the normal cost and amortization have generally been made on schedule and, as of September 30, 2015, the MRF held assets of approximately $601 billion. The accrued liability as of that date was $1,417 billion, leaving an unfunded accrued liability of $816 billion. (The unfunded accrued liability as of October 1, 1984, was $529 billion.) The items described in Appendix B that caused the changes in the NCPs also affected the unfunded accrued liability.

The unfunded liability at October 1, 1984, was originally scheduled to be liquidated in 60 years (i.e., in the year 2043). In order to preclude a projected exhaustion of the MRF in 2020, the Board decided in August 1996 to shorten the original amortization period to 50 years (i.e., liquidate it in the year 2033). At its 2007 meeting, the Board decided to change the amortization of the initial unfunded liability so that payments at least cover the interest cost on the total unfunded liability. More specifically, this was accomplished by reducing the amortization schedule of the initial unfunded liability by eight years, so that it will now be fully amortized in 2025.

In general, the reason that initial unfunded accrued liabilities are amortized over a period of time is to avoid imposing a crippling cash contribution (or expense for financial reporting purposes) requirement on the plan sponsor in the first year of the plan. However, because this plan is included in the federal budget and is only “funded” with US government securities (i.e., a promised allocation of future tax revenues), the Board is aware that fully “funding” the MRF (i.e., recognizing its liabilities in the national debt) is possible. The Board is considering whether such a move would be appropriate but has not reached a conclusion.

The MRF unfunded accrued liability since 1984[5] is summarized in Table 3. As shown below, the assets in the MRF covered about 42 percent of the accrued liability at September 30, 2015.

TABLE 3
Unfunded Accrued Liability
(In Billions of Dollars)

At End of Fiscal Year	Accrued Liability	Assets	Unfunded Accrued Liability	Percent Funded
1984	$528.7	$0.0	$528.7	0%
1985	551.5	11.8	539.7	2
1986	566.2	24.6	541.6	4
1987	585.2	38.9	546.3	7
1988	551.8	53.4	498.4	10
1989	580.3	67.6	512.7	12
1990	612.9	80.4	532.5	13
1991	604.2	93.7	510.5	16
1992	619.0	106.1	512.9	17
1993	629.9	115.9	514.0	18
1994	615.6	124.2	491.4	20
1995	631.8	131.0	500.8	21
1996	625.8	135.3	490.5	22
1997	639.2	143.3	495.9	22
1998	649.4	149.9	499.5	23
1999	657.2	156.0	501.2	24
2000	682.6	162.7	519.9	24
2001	708.8	169.2	539.6	24
2002	721.6	176.5	545.1	24
2003	810.9	182.6	628.3	23
2004	854.1	188.0	666.1	22
2005	900.6	197.9	702.7	22
2006	973.7	208.4	765.3	21
2007	1042.3	218.2	824.1	21
2008	1157.3	253.1	904.2	22
2009	1186.9	278.4	908.5	23
2010	1225.2	321.7	903.5	26
2011	1273.3	376.1	897.2	30
2012	1360.2	428.0	932.2	31
2013	1368.6	483.5	885.1	35
2014	1412.8	545.0	867.8	39
2015	1,417.0	600.6	816.4	42

[5] Results for September 30, 2016 have not yet been published by the DoD Office of the Actuary.

4. Actuarial Assumptions

The normal costs and accrued liability are heavily influenced by the underlying actuarial assumptions, especially those used for future interest, salary growth, and inflation. The inflation, interest, and salary growth assumptions used in the valuations since 1984 are as follows:

TABLE 4
Board's Economic Assumptions

Fiscal Year	Inflation	Interest	Salary Growth	Real Interest
1984	5.00%	6.60%	6.20%	1.60%
1985	5.00	6.60	6.20	1.60
1986	5.00	6.60	6.20	1.60
1987	5.00	6.60	6.20	1.60
1988	5.00	7.00	5.75	2.00
1989	5.00	7.00	5.75	2.00
1990	5.00	7.00	5.75	2.00
1991	5.00	7.50	5.50	2.50
1992	5.00	7.50	5.50	2.50
1993	5.00	7.50	5.50	2.50
1994	4.00	6.75	4.50	2.75
1995	4.00	6.75	4.50	2.75
1996	3.50	6.50	4.00	3.00
1997	3.50	6.50	4.00	3.00
1998	3.50	6.50	4.00	3.00
1999	3.00	6.25	3.50	3.25
2000	3.00	6.25	3.50	3.25
2001	3.00	6.25	3.50	3.25
2002	3.00	6.25	3.50	3.25
2003	3.00	6.25	3.75	3.25
2004	3.00	6.25	3.75	3.25
2005	3.00	6.25	3.75	3.25
2006	3.00	6.00	3.75	3.00
2007	3.00	6.00	3.75	3.00
2008	3.00	5.75	3.75	2.75
2009	3.00	5.75	3.75	2.75
2010	3.00	5.75	3.75	2.75
2011	3.00	5.75	3.75	2.75
2012	3.00	5.50	3.50	2.50
2013	3.00	5.50	3.50	2.50
2014	3.00	5.50	3.50	2.50
2015	2.75	5.25	3.25	2.50
2016	2.75	5.25	3.25	2.50

The most important trend in Table 4 is the spread between the interest and inflation assumptions, shown in the last column of the table. This spread, sometimes called the "real" rate or inflation-adjusted rate of interest, has a large impact on the MRF accrued liability. Generally, the higher the real interest rate, the lower the accrued liability will be.

The MRF is required to be invested in non-marketable, market-based U.S. Treasury securities, and the interest assumption reflects this constraint. While the Board does not have authority over the investment policy, our understanding is that the current strategy includes investing the MRF so that it generates sufficient cash to fund benefit payments and expenses as they come due. We also understand that the MRF generally holds securities to maturity, unless a security needs to be liquidated to generate additional cash. We have been informed that many considerations are taken into account when making investment decisions, including balancing various risks, targeting an expected average maturity of future investments of 20 years (which is close to the duration of the liabilities) and current and expected economic conditions.

D. RECOMMENDATIONS

In the recommendations that follow, the Board has used the word "funding" as shorthand for "accrual accounting." We recognize that no taxes have yet been assessed to pay for future benefits (or that any taxes so assessed have been loaned back to the federal government to pay for other programs). Further, the Board has not performed any review of the appropriateness of benefit levels in comparison with those in the private sector or public (non-military) sector. Our primary purpose is to make recommendations to allow the MRF, the EBF, and the VSI Fund to remain on sound actuarial footings. We have provided specific recommendations for each of these programs as well as a few recommendations that pertain to the operational risks in the DoD Office of the Actuary.

MRF Recommendations

1. Congress Should Consider Rescinding Either the Availability of Lump Sums or the Use of Personal Discount Rates

As previously described, the new tier of benefits includes a partial lump sum feature. The partial lump sum will be determined, per the 2016 NDAA, using the concept of a "personal discount rate," which is not an actuarial concept as it includes a non-actuarial component of individual preference or utility.

The Board is concerned that a personal discount rate is not an appropriate approach for discounting in a retirement plan environment. A personal discount rate is just that—personal—and varies greatly by individual circumstances. However, assessing an individual's personal circumstances in determining the discount rate to be applied in each particular case is not only impossibly unwieldy for a large fund like the MRF, but fraught with issues such as the requirement to apply significant judgment in each case, inequitable treatment of similarly situated service members, difficulties caused by changes in an individual's personal discount rate over short periods, etc.

As a result, DoD will presumably be forced to develop some type of aggregate personal discount rate (or rates). However, an aggregate rate significantly detracts from the conceptual basis behind adopting a personal discount rate approach, and results in a rate that is only rarely appropriate for a given individual. Rates that do not match an individual's personal discount rate will produce behaviors (e.g., retirements and cash outs) different from that anticipated when the original legislation was passed.

Setting aside this Board's significant concerns with using personal discount rates at all,[6] they produce significant challenges in determining the cost of funding the MRF. The level of the

[6] See the Board's July 11, 2016, letter to the Honorable Todd Weiler, Assistant Secretary of Defense (Manpower and Reserve Affairs)

ultimate rate will affect the percentages of lump sums elected and will affect the cost of benefits under the MRF.

At this point, we believe that the discount rate used to determine the lump sum (including some aggregate personal discount rate component) will be significantly above market interest rates. We are concerned that using a discount rate that is much higher than a market-based interest rate will have unintended consequences on the cost of the plan that could include the following:

a. A larger percentage of those who are very ill will choose the lump sum feature and the net result of this anti-selection will be an unanticipated increase in the ultimate cost of the plan.

b. Some service members, legislators, and others could perceive, as the new feature is better understood, that use of a high discount rate, which is both higher than rates applicable in the private sector[7] and higher than a given individual's "true" personal discount rate, would be taking advantage of our service members. If these concerns led to legislation that, as an example, offered the same protections to military pensioners as currently exists in the private sector (i.e., use of a more market-based rate), there would be a significant impact on the MRF's costs and funding, and likely on military retention levels.

While we have been conservative in setting our assumptions regarding the implementation of the lump sum feature, we have a concern that using the concept of the personal discount rate to determine this lump sum amount may necessitate that we further revise the assumptions.

We understand that in some situations making available the partial lump sum described in the law might be quite useful for some retiring service members (e.g., those subject to high credit card debt or those wanting to start a business), but we believe that implementation issues make this provision a hazard to both appropriate plan administration and appropriate plan funding. As such we recommend that Congress rescind the provision allowing lump sums to be paid from the MRF.

If Congress continues to believe that having immediate access to a lump sum at retirement is good policy, we suggest that Congress facilitate that feature outside the MRF. Specifically, Congress could consider allowing the limited assignment of retirement benefits as collateral for a loan from a regulated lending organization such as a bank or credit union that is in the business of evaluating criteria inherent in individual lending. The benefits which would be assignable would be limited to those currently eligible for lump sum treatment (i.e., a portion of the annuity payable before age 67). At the same time, we would recommend that the law be clear that no other benefits can be assigned, and that assignment to a non-regulated organization is not enforceable. Such an approach would ensure that normal consumer credit protections would

[7] IRC Section 417(e) requires that private sector pension plans that do offer a lump sum do so on a basis no less favorable than on high quality corporate bonds.

apply in this type of situation. It would also deter the elections of lump sums in cases where the individual's specific financial situation did not warrant cashing out a secure annuity stream from the MRF.

2. DoD, not Treasury, Should Pay for All Benefit Increases

The Board is deeply concerned about any legislative efforts to make Treasury, not DoD, pay for additional benefits to military retirees. Removing the cost of some benefits from DoD's budget, as has occurred in the past, blatantly circumvents the fiscal discipline that the MRF's budgetary process was designed to impose on DoD's manpower policies.

The General Accountability Office (GAO) expressed similar concerns in discussing whether Treasury, not the U.S. Postal Service, should pay the cost of giving USPS employees credit for military service:

> "GAO has long held the position that federal entities should be charged the full costs of retirement benefits not covered by employee contributions in the belief that it enhances recognition of costs and budgetary discipline at the same time it promotes sounder fiscal and legislative decisions."[8]

While the Board understands that current budget demands on DoD are burdensome, removing DoD's responsibility to recognize, disclose, and include in manpower decisions the full cost of military personnel is short-sighted. Burying such information as an obligation of the general Treasury is misleading and leaves the door open to unrestricted enhancements because DoD has no incentive to hold down retirement benefit costs.

The Board recommends that all future legislation require DoD to pay the full normal costs of all the benefits it promises and pay any past service costs associated with benefit increases (and receive credit for any benefit decreases). Having Treasury pay for future DoD benefit increases is an abdication of budgetary discipline and responsibility and causes the MRF to lose much of its meaning and purpose.

3. Congress Should Consider All Costs When Legislating Benefit Changes

As previously noted, DoD pays for the impact on future service (NCP) costs for any changes in retirement or survivor benefits while the cost associated with any effect of these changes on prior service cost falls to Treasury. Until such time as this is legislatively fixed (see recommendation #2), when Congress considers the costs or savings of proposed changes in military benefits, the effect on the unfunded liability needs be included in the discussions. Costs that are passed to

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[8] Report GAO-04-281 "Postal Pension Funding Reform: Review of Military Service Funding Proposals" released Nov. 26, 2003.

Treasury tend to get overlooked and not included in policymakers' deliberations about pending legislation. As such the true cost of the changes is misrepresented. Having DoD bear the full cost of benefits, as noted above, would avoid misrepresentation.

Further, when considering legislation, Congress should analyze the full impact of the legislation over the appropriate time horizon. Changes to military retirement benefits have longer-term, 80-100 year, impacts. Analyzing costs or savings solely over the 10-year time horizon currently used by Congress tends to obscure the overall cost and misleads decision-makers.

4. Responsibility for Concurrent Receipt Normal Cost Should be Moved to DoD

An area in which costs that rightfully belong to DoD have been shifted to Treasury is the Combat Related Special Compensation and the Concurrent Retirement and Disability Pay ("concurrent receipt") legislation. In keeping with the Board's belief that all costs of changes to military retirement and survivor benefit changes should be recognized and borne by DoD, the portion of the NCP attributable to these two programs, which is currently paid by Treasury, should be expressly recognized by being moved to the DoD budget.

5. Treasury's Payments towards MRF Actuarial Gains and Losses Should be Phased Out

Treasury is currently responsible for funding the actuarial gains or losses which arise because actuarial assumptions are never precisely correct. The Board's prior seven quadrennial reports all recommended that DoD begin sharing in the responsibility for funding the actuarial gains and losses arising in future MRF annual valuations. We again recommend that enabling legislation be enacted, with the eventual goal of phasing out all payments by Treasury toward the full cost of military retirement benefits.

In establishing the MRF in 1984, Congress made DoD responsible for paying the normal costs, and made Treasury responsible for paying off the system's initial unfunded liability. The Board establishes the schedule for paying off that liability, and currently has set the amortization period to end in 2025. From that time forward, DoD would, under current law, pay the full cost of military retirement benefits with two possible exceptions. First, as noted above in our third recommendation, Congress made Treasury responsible for paying the normal costs for certain benefits to disabled retirees, and we believe that DoD should be required to pay these costs. Second, Treasury's amortization payments are increased or decreased each year to reflect a payment for emerging actuarial gains and losses. We do not believe that Treasury should participate in the actuarial gains and losses forever. Rather, we believe a sensible division of funding responsibility is to make Treasury responsible for all costs, including gains and losses, attributable to service performed prior to the MRF's inception, with DoD responsible for all costs, including gains and losses, attributable to service performed thereafter.

Moreover, as policymakers seek ways to phase out Treasury's participation in gains and losses, we believe they should, at the same time, address the issue of Treasury's payment of normal costs. The two funding changes recommended here would tend to go in opposite directions. That is, the changes would discontinue both Treasury's current subsidy of the MRF's normal costs and the MRF's historical pattern of reductions in payments from Treasury derived from actuarial gains. Accordingly, tackling both funding problems together will have less budgetary impact than just addressing one or the other.

Ending Treasury's participation in gains and losses would expose DoD to losses as well as gains. While gains have occurred more often to date, the MRF has experienced losses in several recent years. Under gain/loss sharing, actuarial losses would lead to higher contribution requirements for DoD than otherwise anticipated and budgeted. The expectation is that in the long run, gains and losses will roughly balance each other out. The Board is available as needed to assist Congress and DoD in evaluating the effects of the funding changes suggested here.

6. The Rate of Disability Should be Studied to Set Proper Assumptions

Disability Retirement Benefits can be based either on the member's accrued non-disability retirement benefit or base pay multiplied by the rated percent of disability. Over the last several years, the Department of Veterans Affairs (VA) has reviewed and increased the disability rating for many members who had been previously found to be disabled.

To project disability benefits, the Office of the Actuary needs to make assumptions regarding how future disabilities will be rated and whether those who have already been found to be disabled will continue to be re-rated at a higher level of disability.

We recommend that a study be commissioned by DoD to study the incidence of disability among members.

7. Congress Should Consider Alternative Normal Cost Funding Methods

Under the Aggregate Entry Age Normal actuarial cost method that is required to value the MRF, the NCPs are based on the new entrant profile—even if the current active duty and reserve populations differ significantly from the new entrant profile. This methodology will lead to a series of actuarial gains or losses when benefit changes that affect only a portion of the population are implemented.

While the Aggregate Entry Age Normal actuarial cost method is an acceptable actuarial method, it is rarely used. [9] With advances in computing capabilities, individual actuarial methods have

[9] The Federal Accounting Standards under which DoD reports require the use of the Aggregate Entry Age Normal method.

become much more popular and do a better job of reflecting plan and assumption changes that might apply to select groups of members. We believe that moving to an individual actuarial cost method as the MRF implements the new Blended Retirement System would improve the overall MRF valuation results.

However, we also understand that recoding valuation software from the Aggregate Entry Age Normal method to the Individual Entry Age Normal method would be costly.

We recommend that legislation be promulgated that permits the use of either the Aggregate or Individual Entry Age Normal methods, and that provides Office of the Actuary with the financial resources needed to effect the change. With enabling legislation, the actuarial cost method could be modified at a time when other software updates are needed.

8. DoD Should Make Additional Investments in the Office of the Actuary's Actuarial Software Infrastructure

Custom software has been developed to perform the extremely complex MRF valuation. The software is written in the Visual Basic computer language and it (or its Fortran-based predecessor) has been used by the Office of the Actuary since 1979.

While the staff is comfortable using this software, the Board is concerned about the lack of existing documentation. With staff turnover, at some point new staff may be unable to understand the current programming and to update programming for future benefit or assumption changes.

We recommend that DoD dedicate programming resources to document existing programs and consider revising programming in such a way that it is more readily understandable to new staff and incorporates more modern programming features so as to increase programming flexibility when modifications are needed.

EBF Recommendations

9. Accounting for VA and DoD Education Benefits Should be Consistent

The liabilities created for education benefits are significant. Some of these liabilities are resident with DoD, and some with VA. However, the funding practices for the two agencies are inconsistent:

- VA funds its share on a pay-as-you-go basis, and
- DoD funds its share on an accrual basis.

The Board believes that accrual accounting, as used for DoD funded benefits, should also be used for the VA funded benefits. Doing so would provide better transparency regarding the true cost of those benefits, thereby leading to increased fiscal responsibility and intergenerational equity along with the appearance of greater benefit protection for the covered individuals. The improved transparency would also allow Congress, in determining which agency should provide which benefit, to focus on the important question of which agency can most effectively provide the benefits rather than false differences in cost by agency.

Consistent accounting would also help show that integration of the benefits makes more sense and is more economical to administer. Plus, appropriate accounting would increase VA's focus on obtaining and maintaining the information necessary for both VA and DoD to appropriately value their respective obligations.

10. Education Benefits Fund Data Should be Improved

The EBF data is often unavailable to the Office of the Actuary, and when it is available is often extremely unreliable and varies a great deal from one year to the next. The Office of the Actuary has unresolved concerns with VA regarding their inability to make education benefit data available to DoD. The missing data creates a large material limitation to valuation accuracy and hence the usefulness of resulting actuarial costs. All agencies involved should place a greater priority on improving EBF data quality. Doing so could reduce variability of results and lessen the need for conservatism in modeling processes, and thus alleviate budgeting challenges for the individual services and the DoD, as a whole.

Two examples of the data issues are:

1) Chapter 1606 Data – DoD's Defense Manpower Data Center (DMDC) provides individual data on who is taking benefits, and DoD's Defense Finance and Accounting Service (DFAS) provides gross benefit payment data. The DMDC data, which reflects input from the VA and the Military Services, includes detailed information that accounts for only about 50% of the total benefit payments reported by DFAS.

2) Chapters 30 and 33 Data – Last year, the first file provided by DMDC was missing 21,330 records compared to the prior year's file; a second file provided by DMDC was missing 10,360 records when compared to the previous year's file. However, the missing records in the second file were not the same as those missing in the first file.

The Board has virtually no confidence in the data that is being provided to value these benefits. We applaud the Office of the Actuary for making the best of a bad situation, but we believe that the quality of the valuation results is suspect because of the poor census data quality.

11. The Education Benefits Fund Should be Audited

The Board recognizes that the EBF is a much smaller fund than the MRF, less than 1% as measured in liabilities. However, with the current emphasis on financial management throughout the federal government, the Board believes having an independent audit of the EBF would be worthwhile. An audit is a key method of internal control in operating any program that dispenses cash benefits. The Board also believes that an audit would focus attention on the data quality concerns mentioned above.

12. Reversion of Surplus Assets from Chapter 1606 and 1607 Benefit Plans Should be Permitted

MGIB-SR (Chapter 1606) and REAP (Chapter 1607) provide educational benefits to Reservists. At this point, we believe that the portion of the EBF providing these benefits will likely prove to have more assets than will be necessary. The law does not include any provisions for the treatment of surplus assets.

We recommend that legislation be enacted that permits the reversion of surplus assets to the Services once all benefits have been paid out from a particular plan.

<u>VSI Recommendation</u>

13. Congress Should Make Minor Revisions to VSI Fund Enabling Legislation

The Board is concerned about the expiration of the VSI Fund. No legislated mechanism is available to deal with excess monies in the VSI Fund after the final payment is made. The Board recommends that the VSI law be rewritten to explicitly provide an allowance or process to return excess assets back to the Services or federal government. If the law is so rewritten, because of the fixed annuity format of this benefit and the relatively small declining balance of the VSI Fund, the Board also recommends that the frequency of <u>required</u> valuations be reduced to once every three years.

General Recommendation

14. Use of Sunset Provisions Should be Curtailed

Prior legislation with respect to the Survivor Benefit Plan (SBP) provided for increased benefits to survivors and included a sunset date of 2017. As part of the proposed National Defense Authorization Act for Fiscal Year 2017 (2017 NDAA), Congress extended the benefit, but only for an additional eight months. We were informed that, without renewal, no new increased benefits would begin and that the increased benefits in payment status at that time would cease. The Board believes that the benefits must be valued as written in the legislation. If these benefits are to be renewed as expiration dates approach, then the increased SBP benefits are really being undervalued.

The use of sunset provisions is inappropriate when the result is to misrepresent the true costs of what are expected and intended to be on-going benefits. This technique should not be used for either the MRF or the EBF.

APPENDIX A

Statutory References for the DoD Board of Actuaries[10]

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10 U.S.C. §183. Department of Defense Board of Actuaries

(a) In general. There shall be in the Department of Defense a Department of Defense Board of Actuaries (hereinafter in this section referred to as the 'Board').

(b) Members.

(1) The Board shall consist of three members who shall be appointed by the Secretary of Defense from among qualified professional actuaries who are members of the Society of Actuaries.

(2) The members of the Board shall serve for a term of 15 years, except that a member of the Board appointed to fill a vacancy occurring before the end of the term for which the member's predecessor was appointed shall only serve until the end of such term. A member may serve after the end of the member's term until the member's successor takes office.

(3) A member of the Board may be removed by the Secretary of Defense only for misconduct or failure to perform functions vested in the Board.

(4) A member of the Board who is not an employee of the United States is entitled to receive pay at the daily equivalent of the annual rate of basic pay of the highest rate of basic pay then currently being paid under the General Schedule of subchapter III of chapter 53 of title 5 [5 USCS §§ 5331 et seq.] for each day the member is engaged in the performance of the duties of the Board and is entitled to travel expenses, including a per diem allowance, in accordance with section 5703 of that title [5 USCS § 5703] in connection with such duties.

(c) Duties. The Board shall have the following duties:

(1) To review valuations of the Department of Defense Military Retirement Fund in accordance with section 1465(c) of this title [10 USCS § 1465(c)] and submit to the President and Congress, not less often than once every four years, a report on the status of that Fund, including such recommendations for modifications to the funding or amortization of that Fund as the Board considers appropriate and necessary to maintain that Fund on a sound actuarial basis.

(2) To review valuations of the Department of Defense Education Benefits Fund in accordance with section 2006(e) of this title [10 USCS § 2006(e)] and make recommendations to the President and Congress on such modifications to the funding or amortization of that Fund as the Board considers appropriate to maintain that Fund on a sound actuarial basis.

(3) To review valuations of such other funds as the Secretary of Defense shall specify for purposes of this section and make recommendations to the President and Congress on such

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[10] 10 U.S.C. §183 is shown in its entirety; for the other sections in this appendix, only select subsections that reference the Board are shown. "Fund" in 10 U.S.C. §1465 refers to the Military Retirement Fund, whereas "Fund" in 10 U.S.C. §1175 refers to the Voluntary Separation Incentive Fund. "Secretary" in 10 U.S.C. §1175 refers to the Secretary of Defense.

modifications to the funding or amortization of such funds as the Board considers appropriate to maintain such funds on a sound actuarial basis.

(d) Records. The Secretary of Defense shall ensure that the Board has access to such records regarding the funds referred to in subsection (c) as the Board shall require to determine the actuarial status of such funds.

(e) Reports.

(1) The Board shall submit to the Secretary of Defense on an annual basis a report on the actuarial status of each of the following:

(A) The Department of Defense Military Retirement Fund.

(B) The Department of Defense Education Benefits Fund.

(C) Each other fund specified by Secretary under subsection (c)(3).

(2) The Board shall also furnish its advice and opinion on matters referred to it by the Secretary.

10 U.S.C. §1465. Determination of contributions to the Fund

(a) Not later than six months after the Board of Actuaries is first appointed, the Board shall determine the amount that is the present value (as of October 1, 1984) of future benefits payable from the Fund that are attributable to service in the armed forces performed before October 1, 1984. That amount is the original unfunded liability of the Fund. The Board shall determine the period of time over which the original unfunded liability should be liquidated and shall determine an amortization schedule for the liquidation of such liability over that period. Contributions to the Fund for the liquidation of the original unfunded liability in accordance with such schedule shall be made as provided in section 1466(b) of this title [10 USCS § 1466(b)].

10 U.S.C. §1465. Determination of contributions to the Fund

(d) All determinations under this section shall be made using methods and assumptions approved by the Board of Actuaries (including assumptions of interest rates and inflation) and in accordance with generally accepted actuarial principles and practices.

10 U.S.C. §2006. Department of Defense Education Benefits Fund

(e) (6) All determinations under this subsection shall be made using methods and assumptions approved by the Board of Actuaries (including assumptions of interest rates and inflation) and in accordance with generally accepted actuarial principles and practices.

10 U.S.C. §1175. Voluntary Separation Incentive

(h) (4) The Department of Defense Retirement Board of Actuaries (hereinafter in this subsection referred to as the “Board”) shall perform the same functions regarding the Fund, as provided in this subsection, as such Board performs regarding the Department of Defense Military Retirement Fund.

(5) Not later than January 1, 1993, the Board shall determine the amount that is the present value, as of that date, of the future benefits payable under this section in the case of persons who are separated pursuant to this section before that date. The amount so determined is the original unfunded liability of the Fund. The Board shall determine an appropriate amortization period and schedule for liquidation of the original unfunded liability. The Secretary shall make deposits to the Fund in accordance with that amortization schedule.

(6) For persons separated under this section on or after January 1, 1993, the Secretary shall deposit in the Fund during the period beginning on that date and ending on September 30, 1999—

(A) such sums as are necessary to pay the current liabilities under this section during such period; and

(B) the amount equal to the present value, as of September 30, 1999, of the future benefits payable under this section, as determined by the Board.

(7) (A) For each fiscal year after fiscal year 1999, the Board shall—

(i) carry out an actuarial valuation of the Fund and determine any unfunded liability of the Fund which deposits under paragraphs (5) and (6) do not liquidate, taking into consideration any cumulative actuarial gain or loss to the Fund;

(ii) determine the period over which that unfunded liability should be liquidated; and

(iii) determine for the following fiscal year, the total amount, and the monthly amount, of the Department of Defense contributions that must be made to the Fund during that fiscal year in order to fund the unfunded liabilities of the Fund over the applicable amortization periods.

(B) The Board shall carry out its responsibilities for each fiscal year in sufficient time for the amounts referred to in subparagraph (A)(iii) to be included in budget requests for that fiscal year.

(C) The Secretary of Defense shall pay into the Fund at the end of each month as the Department of Defense contribution to the Fund the amount necessary to liquidate unfunded liabilities of the Fund in accordance with the amortization schedules determined by the Board

APPENDIX B

History of the Changes Affecting the Normal Cost Percentages (NCPs)

- In 1988, the Board adopted new assumptions for interest and salary growth which reduced the NCPs substantially. Because of the DoD budget cycle, the lower NCPs took effect in 1990.
- In 1991, the Board's new assumptions for interest and salary growth caused a further decrease in the NCPs which, due to the budget cycle, took effect in 1993.
- In 1994 and 1996, the Board adopted new inflation, interest, and salary-growth assumptions which further reduced the NCPs for 1996 and 1998, respectively.
- In 1999, the Board's new economic assumptions, as well as a number of changes in the methodology of the part-time valuation, led to a major increase in the NCP for part-time personnel beginning in 2001.
- In 2000, a change in benefits produced an increase in both NCPs for 2000.
- Also in 2000, a major change in mortality assumptions led to an increase in NCPs for 2002.
- In 2002, new assumptions for the part-time valuation led to an increase in the NCP for part-time personnel beginning in 2004.
- In 2003, the Board's increase in the future salary growth assumption, and the reflection of a significant benefit change, increased the NCPs beginning in 2005.
- In 2004, a benefit change increased the Treasury NCPs beginning in 2006.
- In 2006, the Board changed the long-term interest assumption, which led to an increase in NCPs beginning in 2008.
- In 2007, a change in reserve retirement benefits, effective January 28, 2008, produced an increase in both full-time and part-time NCPs beginning in 2009.
- In 2008, the Board changed the long-term interest assumption, which led to an increase in both full-time and part-time NCPs beginning in 2010.
- In 2010, the Board adopted a new suite of modeling assumptions, which led to an increase in the NCP for full-time personnel beginning in 2012.
- In 2011, new assumptions related to mortality improvement and the allocation of normal costs between DoD and Treasury impacted the NCPs for full-time and part-time personnel beginning in 2013.
- In 2012, a new approach for explicit modeling of part-time personnel, lower long-term interest assumption, and other miscellaneous updates, led to higher NCPs in 2014.
- In 2013, the Board further refined the modeling of part-time personnel, which led to a decrease in both full-time and part-time NCPs beginning 2015.
- In 2014, the Board adopted a suite of revised modeling assumptions, including retiree death rates, mortality projection scale, and CSB take-rate, and, in addition, reflected the phasing in of a reduced COLA for retirees. These changes affect both full-time and part-time NCPs beginning in 2016.

- In 2015, new assumptions for the valuation of disability retirements as well as new economic assumptions led to increases in both NCPs beginning in 2017.
- In 2016, Congress enacted legislation that repealed several existing benefit provisions and created a new retirement system which allows for participation by current members. The newly adopted system along with the other changes decreased both full-time and part-time NCPs beginning 2017.