

SPECIAL REPORT

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The 2019 NDAA Must Continue to Rebuild the Military and Make It More Efficient

Edited by Frederico Bartels

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This paper, in its entirety, can be found at:
<http://report.heritage.org/sr198>

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The 2019 NDAA Must Continue to Rebuild the Military and Make It More Efficient

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Providing for the common defense and allocating taxpayers' dollars are the two most important tasks that rest on Congress. This is partially why the National Defense Authorization Act (NDAA) has a streak of passing Congress that is 56 years old and running.¹ It is also why there is always intense debate on, and interest in, the NDAA.

When setting the vision for his tenure as Secretary of Defense, James Mattis described three lines of effort that ought to guide the work of the Department of Defense (DOD): force lethality, strengthening international partnerships, and reforming the department's business practices.² These are three very important areas addressed in this *Special Report*.

The combination of its significance and high likelihood of passage creates an opportunity for lawmakers to attach legislative proposals to the NDAA that would not stand on their own. This leads many lawmakers to try to attach their favorite projects to the NDAA, which often have little connection to the defense of the nation.³ Congress needs to resist this temptation and allow the bill to focus on its main job of authorizing Department of Defense (DOD) activities for the next year.

Congress can and should play an active role in creating a better Armed Forces and a DOD that is ready to meet the threats that face the nation.

Status of the U.S. Military: The Role of Congress

The release of The Heritage Foundation's *2018 Index of U.S. Military Strength* marked the fourth consecutive year of the *Index's* release.⁴ In the inaugural 2015 edition, the U.S. Armed Forces were deemed marginally capable of meeting the threats that the U.S. faced. In 2015, from the five elements examined by the *Index*—the four services and U.S. nuclear capabilities—four of them were categorized as marginal and only one, the Air Force, as strong.⁵

In 2018, U.S. Armed Forces were again deemed marginally capable. This time, three components were assessed as marginally capable, and two—the Army and the Marine Corps—as weak. Even though the overall assessment remained static, the composition of the grade changed through time, demonstrating the deterioration of the Armed Forces.

To reverse the negative trend illustrated by the *Index*, the U.S. Armed Forces need to be funded at a level where they can meet their defined demands.

Increased funding alone will not cure everything that ails the Department of Defense and the military, but it is a necessary condition for its rebuilding. The underfunding in relation to mission has been compounded by years of overuse in constant deployments to Iraq, Afghanistan, and other areas. In recent years, the Armed Forces have consumed more readiness than it was able to build.⁶

The *Index* reflects that time has not been kind to the Armed Forces and that preparedness and pre-eminence are not a given. It rather requires sustained and consistent investment. Congress is the driver of this investment and the NDAA and the accompanying appropriation bill are the vehicles to make that a reality.

Part of Congress' constitutionally mandated function is to provide for the common defense and to control the purse strings. The NDAA marries these two functions into one piece of legislation that can continue to improve the military and the country's defense. The erosion of U.S. readiness is clearly demonstrated, the question is what the U.S. will do about it. In the following pages, Heritage Foundation experts detail how Congress can act to continue to reverse the decline.

Guidelines for Rebuilding the U.S. Military

The Heritage Foundation's Kim Holmes explains that part of America's understanding of deterrence is never being interested in a "fair fight." "Rather we should possess such overwhelming strength that our enemies choose not to challenge us."⁷

Proceeding on that basis, one must consider that the United States has global interests and responsibilities that require particular force constructs and capabilities. The broad context of how the U.S. chooses to employ its military, and the situations in which the military is expected to engage, needs to be taken into account in the NDAA discussions. These considerations influence how the United States chooses to deploy military assets abroad and determines how and what America funds in its national defense.⁸

Part of the American way of war is reflected in an approach that minimizes the loss of human life. Whether these are American lives, reflected in the investment in equipment or training; lives of the opponent, as reflected in the reliance on precision munitions and warnings for the civilian population; or the lives of allies, reflected in the training efforts. These drive U.S. investments and how the U.S. government thinks about the military and deploying military force.

CHART 1

Department of Defense Spending — 051

IN BILLIONS OF CONSTANT 2018 DOLLARS



SOURCE: U.S. Department of Defense, Office of the Under Secretary of Defense (Comptroller), "National Defense Budget Estimates for FY 2018," August 2017, http://comptroller.defense.gov/Portals/45/Documents/defbudget/fy2018/FY18_Green_Book.pdf (accessed October 23, 2017).

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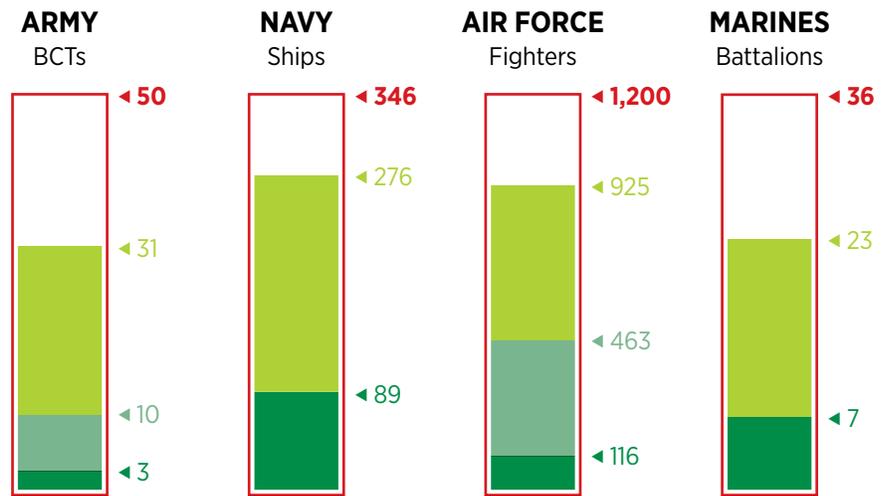
2017 has been a challenging year for the U.S. military, from increasing threats, to continuing military engagement, to lethal training accidents and congressional inability to properly fund the military. All these pressure points reinforce each other, worsening the situation. Thus, when writing the NDAA in the coming year, Congress should have in mind the need to provide funds commensurate with the strategy and building capability, capacity, and readiness of the Armed Forces.

The National Defense Strategy

The National Defense Strategy (NDS) released on January 19, 2018 is the first true U.S. defense strategy in a decade.⁹ It details how the Trump administration and Defense Secretary Jim Mattis view the military challenges facing the United States and how they propose to address them. It describes America's

CHART 2

Military Operating Well Below Recommended Readiness Levels



SOURCE: Dakota L. Wood, ed., *2018 Index of U.S. Military Strength* (Washington: The Heritage Foundation, 2018), <http://www.heritage.org/military-strength>.

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potential adversaries—as well as the current state of the U.S. military—more candidly and forthrightly than previous documents of its kind, including past Quadrennial Defense Reviews.

China has been clearly elevated to a top threat, as has Russia. Relegated to a lesser threat category are Iran, North Korea and, most significantly, terrorism. This reverses the priorities of the last 16 years and with good reason. The importance placed on improved business processes is overdue and welcome. The NDS puts a priority on establishing a culture of performance and improving speed of delivery one of the three main lines of effort in the NDS.

Unfortunately, the NDS sets too low a strategic goal. It calls only for U.S. to maintain the ability to “defeat aggression by a major power and deterring opportunistic aggression elsewhere...” But deterrence is an elusive goal to plan against. Deterrence requires will and capability, and in order to reasonably deter, the U.S. must present adversaries with the necessary capability to win. It is not at all clear that capability will be present if the bar is set too low.

Although the Pentagon’s 2019 Budget Submission was prepared in relative parallel with the NDS, the NDAA should nevertheless use the NDS as a means to evaluate the budget submission. Weapon systems and programs that do not support the priority of preparing for conflict with China and Russia should be scaled back. The concept of enlarging the

competitive space should be identifiable in the budget submission and the subsequent NDAA.

Funding the Strategy

The consistent problem over the years has been that the U.S. has been unable to fund the defense budget to a level appropriate to execute the tasks that Americans expect the military to accomplish. The important element to take into account is the depth and breadth of interests that the country has and its international commitments. The number of regions and level of engagement have increased, while at the same time a decrease in the resources dedicated to America’s defense.

Budget caps imposed by the Budget Control Act (BCA) of 2011 are the main obstacle to any relief of the decreasing trend. The BCA came into effect in 2011 and its caps are currently scheduled to last until 2021.¹⁰ Due to its enforcement through sequestration and the requirement of 60 votes in the Senate to change it, the law has defined the political discussion. The current increases of the defense caps are set at a level that would be largely devoured annually by inflation.¹¹

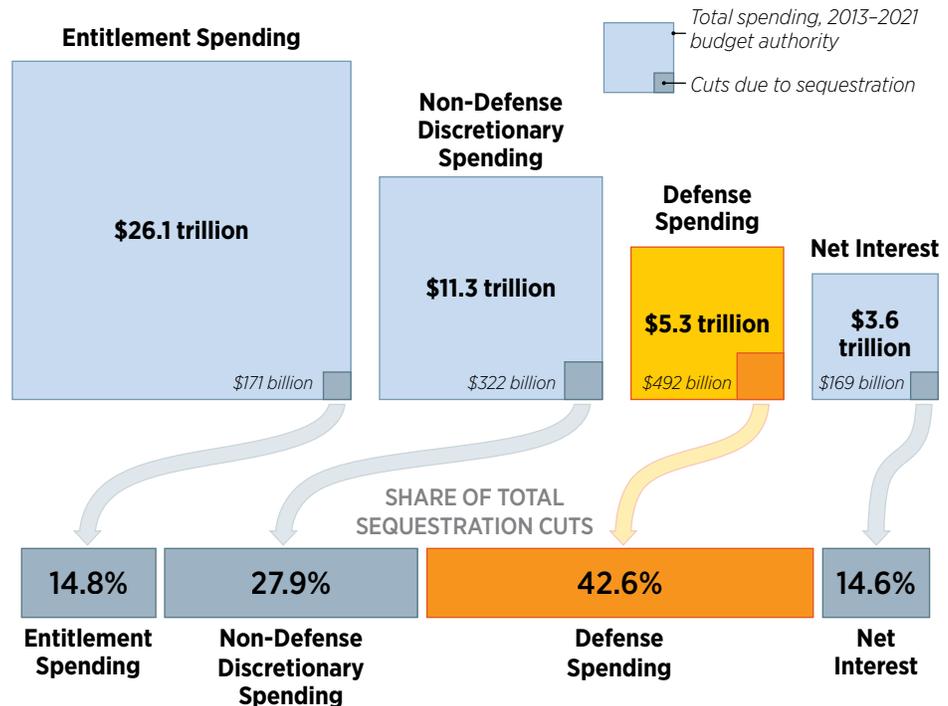
To compound the problem, the DOD has not had an appropriated budget at the start of the fiscal year (FY) since 2010, and has had to rely on a continuing resolution (CR).¹² FY 2018 started on October 1, 2017, under a CR with no certainty on the level of funding. The constant presence of CRs led Congress to

CHART 3

Sequestration in Budget Control Act Hits Defense Hardest

FIGURES ARE IN NOMINAL DOLLARS

SOURCE: Congressional Budget Office, "Estimated Impact of Automatic Budget Enforcement Procedures Specified in the Budget Control Act," September 12, 2011, Table 1, <http://www.cbo.gov/publication/42754> (accessed February 14, 2012).



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request Secretary of Defense Mattis to write a letter detailing the obstacles and damages created by the temporary funding mechanism.¹³

In an effort to provide some budgetary relief to the BCA, the DOD and Congress started to dedicate extra resources to the overseas contingency operations (OCO) account that is considered emergency spending and thus is not limited by the BCA caps.¹⁴ It created the habit on behalf of both Congress and the DOD to work around the cap through OCO. In recent years, half of OCO resources have been dedicated to enduring requirements that should be funded through the regular budget.¹⁵ This is an improper and unpredictable way to fund enduring requirements and should be restricted to true emergencies, instead of being used as an extra pot of money.¹⁶ This transition clearly also requires that the base budget be fully funded to a level that is compatible with the tasks assigned to the military.

Capability, Capacity, and Readiness

The Armed Forces need to be capable of meeting the threats to the nation and other commitments, from exercises with allies to deterrence. The NDAA

should ensure that the Armed Forces have proper and sufficient tools, be they pistols or platforms. When thinking of capability, it is also important to further consider whether the different force elements reinforce each other and whether there is enough variety to prevent vulnerabilities and provide flexibility.¹⁷

It is Congress' role to authorize and to provide oversight over the Armed Forces' capability, in order to assure that they are proper, appropriate, sufficient, and integrated. This element should serve as a measuring stick for both Congress and the services, and it will be used throughout this report to better understand the composition of each service.

The Armed Forces need to be sized properly for the threats and commitments of the nation. Heritage experts have consistently supported a force size construct that is enough to engage in two major regional contingencies (MRC) at the same time.¹⁸ This is a goal that will not be achieved in one year, but it is the appropriate benchmark for a superpower with global commitments.

When writing the NDAA, Congress also needs to keep the ability of the defense industrial base to meet the demands of the Armed Forces in mind. Congress

has a direct impact on the direction and size of programs that provide warfighters with technology that is relevant and creates value in the battlefield. The sustainability of the industrial base and its ability to innovate is closely affected by the decisions that Congress makes on how to distribute defense dollars.

Secretary Mattis placed heavy emphasis on recovering lost readiness when discussing the FY 2018 defense budget in Congress.¹⁹ Over the years, all services have seen a decreased level of readiness of their members and of platforms. From a decrease in the number of available fighter pilots,²⁰ to the naval accidents of 2017,²¹ there are myriad examples of deteriorated readiness. The country expects its military to be ready for action when it is called upon, which is why it is important for Congress to focus on readiness when crafting the 2019 NDAA. Currently, the U.S. military is facing substantial readiness challenges in all of its services.

As described in the *Index*, “It is one thing to have the right capabilities to defeat the enemy in battle. It is another thing to have enough of those capabilities to sustain operations over time and many battles against an enemy, especially when attrition or dispersed operations are significant factors. But sufficient numbers of the right capabilities are rather meaningless if the force is unready to engage in the task.”²² Congress needs to contribute to the improvement of all these areas with the 2019 NDAA.

The Defense Budget in Context

The defense of the nation is one of the few enumerated powers in the Constitution; as such, it should be the priority for the government when deciding how to allocate taxpayers’ dollars. There is explicit guidance to “provide for the common defense.”²³ Even though there have been multiple budget deals that have raised the defense budget cap, the BCA cap has been able to drag down and disproportionately affect the defense budget.²⁴

Breaking the BCA Firewall

Under the Budget Control Act, defense and non-defense spending are each capped in separate categories rather than one aggregate total. This firewall splits the overall discretionary funding allocation between defense and non-defense. This parity is arbitrary and a political construct that is no longer relevant. It has had a disproportionately negative impact on the national defense budget. The

President’s and House budget proposals called for the elimination of the firewall between defense and non-defense spending.²⁵ Congress and President Donald Trump already departed from this construct in the May 2017 funding bill.²⁶ Lawmakers need to continue making progress in prioritizing defense needs over domestic programs.

Congress should revise the current BCA structure to permanently eliminate the firewall between defense and non-defense spending. This will allow Congress greater flexibility to adjust national defense spending without the need for a statutory change each year. A wide variety of cuts could be made to domestic programs and through budget-process reforms to offset increases to defense spending. This would provide more transparency within the budget process and leave less leeway for lawmakers to abuse these designations or use them in non-intended ways.²⁷

Topline

Recommendation 1: Raise the Defense Budget Cap for FY 2019 to \$664 Billion. Heritage Foundation experts assess this amount as necessary to continue rebuilding the Armed Forces’ capability, capacity, and readiness, and to provide funding appropriate to the upcoming national defense strategy.²⁸ It would be a signal to both internal and external audiences that the United States is committed to rebuilding its forces and addressing the very public signs of eroded readiness.

Recommendation 2: Properly Fund the OCO Account. OCO funding should be set at a level that is able to fund the real needs of overseas contingencies and is properly focused on those questions in addition to the base budget. Congress and the Administration should start to transfer enduring obligations, and their commensurate funding, from OCO back to the base budget.

When Heritage Foundation analysts assessed the impacts of the BCA in its infancy, it was evident that the defense budget would be the target for large chunks of the cuts.²⁹ This has borne out to be true. These cuts also affect the need for steeper increases in the defense budget, as both Secretary Mattis and Chairman Joseph Dunford have already alerted Congress.³⁰ Rebuilding the military will take consistent and sustained investments through time, and the budget cannot be allowed to further erode the forces.

TABLE 1

U.S. Army End Strength

| Component | 2018 Total | 2019 Recommendation | 2019 Total | 2023 Total |
|---------------------|------------|---------------------|------------|------------|
| Army Active | 483,500 | 8,500 | 492,000 | 520,000 |
| Army Reserve | 199,500 | 500 | 200,000 | 205,000 |
| Army National Guard | 343,500 | 500 | 344,000 | 350,000 |

NOTE: Years shown are fiscal years.

SOURCE: U.S. House of Representatives, “Conference Report to Accompany H.R. 2810–National Defense Authorization Act for Fiscal Year 2018,” November 9, 2017, <http://docs.house.gov/billsthisweek/20171113/HRPT-115-HR2810.pdf> (accessed November 13, 2017).

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Service-Specific Actions

The recommendations in the next four sections address each of the services and how Congress can help them become more lethal and more ready. Additionally, there are also considerations for Congress on how to improve the military posture, points that affect all services.

The Army: Increasing the Number of Combat-Ready BCTs

The single most critical issue facing the Army is its inability to generate and maintain sufficient numbers of combat-ready brigade combat teams (BCTs) to meet combatant commander requirements. Of the 58 total BCTs in the regular Army and National Guard, the Army has stated that only five (9 percent) are ready to fight tonight.³¹ The Army has previously stated the need for two-thirds of its BCTs to be ready to meet the national military strategy.

Closing this gap and keeping readiness levels high enough to meet this standard is a tough challenge. As Acting Secretary of the Army Robert Speer said in May 2017, “To build readiness, Soldiers require specialized and sufficient training; modern, properly maintained equipment; sufficient quantities of the proper munitions; and stability.”³² To its credit, the Army has initiated several programs to increase readiness, including introducing a new readiness model—the Sustainable Readiness Model—and new metrics for training readiness under the “Objective T” readiness tracker.³³

For the past two years, Congress has added end strength to the Army to increase capacity, reversing a series of ill-advised cuts imposed by the Obama Administration, which brought the regular Army to the smallest it has been since 1939. The rebuilding

is appropriate and should continue, since part of the challenge with increasing readiness is that the Army is presently too small to meet combatant commander requirements on a predictable and management pace. This means that units are forced to sacrifice essential preparation and training time to meet deployment timelines.

The Chief of Staff of the Army, General Mark Milley, has testified that the Army is too small to meet wartime requirements: “We need to be bigger and stronger, and more capable.”³⁴ In 2017 the Army could only field 31 active BCTs, 19 below the 50 that Heritage Foundation analysis assesses is required to meet a two-MRC requirement.³⁵ In the 2018 NDAA, Congress added 8,500 soldiers to the Army: 7,500 to the regular Army, and 500 each for the National Guard and Army Reserve.

Recommendation 3: Authorize 8,500 Additional Soldiers in the Regular Army, for a New Active End Strength of 492,000 in 2019. The Army Reserve and National Guard should also be increased by 500 each, as reflected in Table 1. In the face of a recovering economy and declining numbers of young Americans who are qualified to serve, military recruiting faces an increasingly difficult environment.³⁶ An inability to satisfy military manpower requirements now and in the future has been termed an “existential national security crisis.”³⁷ Reaching the above goal of 520,000 active-duty soldiers by 2023 will be difficult if changes are not made now. Mindful of today’s recruiting challenges exacerbated by national trends in which only 29 percent of Americans ages 17 to 24 are even qualified to join the military, Congress must continue to incrementally expand the Army in the 2019 NDAA.³⁸

TABLE 2

U.S. Army Platforms

| System | 2018 Requested | 2018 NDAA | 2019 Recommendation |
|--|----------------|-----------|---------------------|
| CH-47F | 6 | 14 | 15 |
| UH-60M | 48 | 53 | 56 |
| AH-64E | 61 | 71 | 75 |
| Abrams Tank Upgrades to M1A2 SEP v3 | 20 | 49 | 51 |
| Bradley Fighting Vehicle Upgrades to M2A4/M7A4 | 33 | 33 | 34 |
| Joint Light Tactical Vehicle | 2,110 | 2,110 | 3,025 |
| Armored Multipurpose Vehicle | 42 | 42 | 44 |

NOTE: Years shown are fiscal years.

SOURCE: U.S. House of Representatives, “Conference Report to Accompany H.R. 2810–National Defense Authorization Act for Fiscal Year 2018,” November 9, 2017, <http://docs.house.gov/billsthisweek/20171113/HRPT-115-HR2810.pdf> (accessed November 13, 2017).

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Recommendation 4: Focus Increased End Strength on Readiness. Congress should impose provisions that ensure that increases in authorized end strength are focused on increasing readiness and satisfying critical demands for warfighting capability, such as air defense battalions, armored brigade combat teams, and electronic warfare.

Recommendation 5: Request a Report on Future Recruitment. Congress should require the DOD and the Army to provide a report detailing the long-term and short-term challenges and specific recommendations to succeed in recruiting a quantitatively and qualitatively sufficient force. The recommendations should include options for how the federal government can better support this national effort.

Recommendation 6: Enhance the Army’s Modernization Programs. When it comes to modernization, the Army’s funding declined 74 percent from 2008 to 2015. As a result, General Daniel Allyn, then-Vice Chief of Staff of the Army, testified in 2017 that the Army is “out-ranged, outgunned, and outdated; and on our present course, the U.S. Army will not be sufficiently modern to deter and defeat potential enemies.”³⁹

Recommendation 7: Require Progress on the Army’s Next-Generation Platforms. Congress should require the Army to move past its intent to pursue vaguely described “next generation combat vehicles” and “Future Vertical Lift” aircraft and instead precisely define its requirements to move

quickly into analysis of alternatives and program initiation. Recent Army announcements of the intent to establish modernization cross-functional teams should facilitate that goal. The Army must now pivot from its previous “small-ball” strategy of pure incremental improvements to rapidly developing next-generation capabilities in order to regain technological overmatch. In that regard, for example, plans for yet another improvement to the 1980s-era Abrams tank, referred to as the M1A2 SEP v4, should be shelved in favor of a more rapid pursuit of a next-generation tank.

Recommendation 8: Properly Fund Army Equipment Procurement. Table 2 shows the minimum procurement of Army equipment that Congress should authorize in the 2019 NDAA in order to rebuild the Army’s technological superiority.

Recommendation 9: Require Regular Updates on Army Readiness Goals. Congress should, at every juncture and opportunity, insist on an update from the Army on progress toward achieving its readiness goals, with details provided on limiting factors (including soldier non-availability), specific goals, management mechanisms, and explanations when expected progress is not achieved.

Recommendation 10: Link Army Readiness to Requirements and Strategy. Congress should further require that goals for Army readiness be able to be linked back to combatant commander requirements and the new national defense

TABLE 3

U.S. Navy End Strength

| Component | 2018 Total | 2019 Recommendation | 2019 total | 2023 total |
|--------------|------------|---------------------|------------|------------|
| Navy Active | 327,900 | 5,000 | 332,900 | 344,900 |
| Navy Reserve | 59,000 | 1,000 | 60,000 | 62,000 |

NOTE: Years shown are fiscal years.

SOURCE: U.S. House of Representatives, “Conference Report to Accompany H.R. 2810–National Defense Authorization Act for Fiscal Year 2018,” November 9, 2017, <http://docs.house.gov/billsthisweek/20171113/HRPT-115-HR2810.pdf> (accessed November 13, 2017).

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strategy. Rebuilding readiness is a “wicked” problem. If systemic and process changes are not made, any increases in Army readiness could disappear like sand through fingers.

The Navy: Restoring the Health of a Navy Stretched Too Thin

The U.S. Navy is still facing the daunting task of reversing the combined effects of numerous years of high operational demand, constrained funding levels, and budget uncertainty on its readiness, capacity, and capabilities. Turning the tide and restoring readiness requires a multi-pronged approach: increased capacity through acquisition, increased operations and maintenance funding, and increased personnel and maintenance infrastructure to properly support current fleet and future growing force size.

The Chief of Naval Operations, Admiral John Richardson, recently testified on the “triple whammy”—“the corrosive confluence of high operational tempo constrained funding levels, and budget uncertainty.” He further stressed that “while we have prioritized our maintenance and readiness dollars, the positive effects of funding will not remove this deficit overnight; it will take time with stable resources to sustain the upward trend.”⁴⁰

The positive path of restoring Navy readiness is fragile and any gains made can be quickly undone by the fiscal uncertainty and budgetary delays. Restoring near-term operational readiness and ensuring the safety of U.S. Navy sailors will also require congressional support for funding the recommended corrective actions in the Navy’s Comprehensive Review of Recent Surface Force Incidents as the Navy identifies the resources required for their implementation.⁴¹ As this review showed, basic

training and proper assessment were critical root causes of the Navy’s recent rash of collisions.

Recommendation 11: Determine Minimum Days Underway. Congress should require the Navy to determine the minimum number of “underway days” per quarter that shall be mandatory for dedicated crew training, especially the training and assessment of basic seamanship and navigation. Ship’s crews that fail to meet this minimum training standard shall have a proficiency assessment completed prior to operational tasking.

Recommendation 12: Fund the Plans to Address Maintenance Shortfalls. Congress must ensure that the Secretary of the Navy’s plan required by the 2018 NDAA to address maintenance shortfalls, specifically in the capacity and modernization of public shipyards, is fully funded.⁴² Restoring readiness is a complex problem that is interlinked with capacity and capability. Congress has supported the required increases in operations and maintenance funding in the 2018 NDAA at \$46.4 billion. Furthermore, Senator John McCain’s (R-AZ) “Restoring American Power” white paper calls for improvements on readiness needs of the current and future fleet by proposing an additional \$1.1 billion in FY 2019 above the Navy’s planned requirement.⁴³

Recommendation 13: Fund Naval Aviation Maintenance. Congress must ensure that ship and aviation maintenance are funded at greater than 90 percent of the planned requirements for the coming five years to ensure that positive readiness gains are made and sustained.

Recommendation 14: Maximizing the Capacity of Shipyards. Congress must ensure that the Navy maximizes the capacity of both public and private shipyards in reducing its maintenance backlog.

TABLE 4

U.S. Navy Ships

| Ship Class | 2018 Requested | 2018 NDAA | 2019 Recommendation |
|-----------------------------|----------------|-----------|---------------------|
| CVN- <i>Ford</i> | 1 | 1 | 0 |
| <i>Columbia</i> -Class SSBN | 0 | 0 | 0 |
| <i>Virginia</i> -Class SSN | 2 | 2 | 2 |
| DDG-51 | 2 | 3 | 3 |
| LCS | 2 | 3 | 2 |
| LX(R) | 0 | 1 | 1 |
| LHA | 0 | 0 | 0 |
| ESB | 0 | 1 | 1 |
| TAO | 1 | 1 | 1 |
| TATS(X) | 1 | 1 | 1 |
| EPF | 0 | 0 | 1 |
| Total | 9 | 13 | 12 |

NOTE: Years shown are fiscal years.

SOURCE: U.S. House of Representatives, "Conference Report to Accompany H.R. 2810—National Defense Authorization Act for Fiscal Year 2018," November 9, 2017, <http://docs.house.gov/billsthisweek/20171113/HRPT-115-HR2810.pdf> (accessed November 13, 2017).

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This can have immediate effects on available fleet capacity. For example, over the five-year period from 2011 to 2016, the Navy lost the equivalent of 0.5 aircraft carriers, 3.0 large surface combatants, and 2.8 submarines due to maintenance delays.⁴⁴

Recommendation 15: Increase the Navy's End Strength. Congress should support the addition of 5,000 active-duty sailors and 1,000 Reserve sailors in the 2019 NDAA to not only address current shortfalls in ship and depot maintenance manning but to support a growing fleet. Congress has supported increasing Navy active-duty end strength in 2018 NDAA by 4,000 personnel to properly man the Navy's current fleet to reflect its sailors' actual workload and require time for training and professional development.⁴⁵ Additionally, Reserve personnel remain in high demand to provide enhanced capability in cyberwarfare and unmanned aerial systems missions, fill manning gaps, and deploy overseas and at home across the full spectrum of naval missions.⁴⁶

Shipbuilding Plan. The U.S. Navy's fleet size, currently at 279 ships, remains significantly smaller than both the Navy's revised fleet requirement of 355

ships and Heritage Foundation experts' 346-ship two-MRC requirement.⁴⁷ The enduring effects of an overstretched fleet struggling to meet steady state combatant commander operational demands as well the impacts of emergent tasking, such as hurricane relief, were painstakingly evident in 2017. Two deadly ship collisions by Seventh Fleet DDGs⁴⁸ brought to light just how far operational readiness and training for these high-demand assets have degraded.⁴⁹

In addition, the urgent deployment of three amphibious warships for hurricane relief showed the lack of surge capacity of this undersized force: delaying the first F-35B deployment on the *USS Wasp* by over three months,⁵⁰ postponing the *USS Bonhomme Richard's* modernization,⁵¹ and scaling back the most significant annual Atlantic Fleet expeditionary warfare training exercise.⁵²

Recommendation 16: Increase Fleet Size. Congress must fund the Navy to further increase the size of the fleet over the next five years by procuring 12 ships in the 2019 NDAA—five more than the Navy's current plan. In 2018, Congress supported increasing the Navy's fleet size by funding the procurement of four additional ships above the Navy's request. It

TABLE 5

U.S. Navy Aviation

| Aircraft Type | 2018 Requested | 2018 NDAA | 2019 Recommendation |
|-----------------------|----------------|-----------|---------------------|
| F/A-18 E/F | 14 | 24 | 24 |
| EA-18G | 0 | 0 | 4 |
| F-35C | 4 | 10 | 18 |
| V-22s (includes USMC) | 6 | 12 | 19 |
| E-2D | 5 | 5 | 7 |
| P-8A | 7 | 10 | 13 |
| MQ-4C | 3 | 3 | 5 |
| MQ-8C | 0 | 0 | 2 |
| MQ-25 | 0 | 0 | 0 |

NOTE: Years shown are fiscal years.

SOURCES: U.S. Department of Defense, “United States Navy Accelerated Fleet Plan,” Memorandum for Secretary of Defense, February 9, 2017, <https://www.blumenthal.senate.gov/imo/media/doc/U.S.%20Navy%20Accelerated%20Fleet%20Plan.pdf> (accessed November 30, 2017), and U.S. House of Representatives, “Conference Report to Accompany H.R. 2810—National Defense Authorization Act for Fiscal Year 2018,” November 9, 2017, <http://docs.house.gov/billsthisweek/20171113/HRPT-115-HR2810.pdf> (accessed November 13, 2017).

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should do so again in 2019. This increase would come through using the industrial base capacity for “hot” production lines, as well as working to decrease the time between construction for large ships, such as aircraft carriers and amphibious vessels.

On the *Ford*-class aircraft carriers (CVN), Congress should increase advance procurement for CVN-80 as necessary to accelerate the build rate from five years to three years, which would allow the Navy to reach its 12-carrier requirement by 2030. The accelerated build rate will also enable economic order of quantity, more efficient use of shipyard workforce, and an accelerated production learning curve.

The *Columbia*-class ballistic missile submarine should be the Navy’s top acquisition priority. Congress needs to fully fund advance procurement and research and development (R&D) to ensure that the program remains on schedule. The Navy’s schedule for designing, building, and testing the lead *Columbia*-class boat, and making it ready for its scheduled first deterrent patrol in 2031, currently includes limited slack between now and 2031 for absorbing delays due to things such as funding issues caused by CRs or lapses in appropriations, or problems in developing and testing new technologies intended

for the *Columbia* class.

Congress ought to procure two *Virginia*-class nuclear submarines (SSN) in 2019. One of the two will incorporate the Virginia Payload Module (VPM) as will all subsequent hulls. The Navy must maintain a build rate of three submarines per year to limit the impact on the ballistic-missile-submarine construction schedule. This proposed increased build rate would achieve 66 SSNs by the late 2030s.

Congress must increase DDG-51 Flight III to three per year from two per year using existing multi-year procurement (MYP) contracts for 15-ship blocks. On the Littoral Combat Ship (LCS), the Navy should procure two LCSs in order to maintain the shipbuilding industrial base until the Navy’s 2020 frigate (FFG(X))⁵³ design decision. The LX(R) should be maintained at one and transitioned to an MYP contract, resulting in estimated savings of between 8 percent and 10 percent, which is close to \$2 billion.

The build rate for helicopter-carrying amphibious assault ships for the *Tarawa* and *America* classes should be accelerated to three years to help reduce the amphibious-ship-requirement gap as well as save costs (as much as 11 percent) through economic order of quantity, more efficient use of shipyard

workforces, and an accelerated production learning curve. The production of one Expeditionary Sea Base ship will leverage the hot production line to help reduce the fleet capacity gap. Congress should allow the Navy to procure one Expeditionary Fast Transport (EPF) ship in order to continue production beyond the Navy's requirement for 12 EPFs. A successful, hot production line can provide cost-effective high-speed littoral transports.

Recommendation 17: Establish a Program for the Future Large Surface Combatant. Congress should require the Navy to establish an acquisition program for a future Large Surface Combatant (LSC) to replace the proven, but aging, DDG-51 program. This acquisition program should build on the analyses of the Navy's Future Surface Combatant Capabilities Based Assessment to identify capability requirements for this LSC.

Recommendation 18: Properly Fund the Navy's Modernization Programs. Congress must also ensure that the Navy's modernization programs are fully funded to ensure that these platforms can meet ever-advancing maritime threats. Since the majority of the Navy's fleet for the next 20 years will consist of legacy platforms in the fleet today, the Navy must continue to improve the capabilities of its fleet, both in modernizing legacy platforms and fielding new capabilities. Most critical of these emerging technologies are unmanned systems and weapon systems that can increase the range, effectiveness, or magazine capacity of its ships and aircraft. Autonomous and semi-autonomous systems have the potential to cost-effectively increase both the capabilities and capacity of its manned platforms. This will be critical as the Navy struggles to overcome the large capacity gap in its manned fleet over the next five years while competing with the high-priority need to restore readiness as well as the effects of current budgetary limits.

Recommendation 19: Fund Research and Development Programs. Congress should ensure that the R&D funding requirements of the Navy's *Snakehead* Large Displacement Unmanned Undersea Vehicle, the *Orca* Extra-Large Unmanned Undersea Vehicle, and the MQ-25 *Stingray* Unmanned Aerial Refueling Aircraft are met. The Navy should identify opportunities to accelerate these programs where technically feasible and provide Congress with updated funding needed to achieve early initial operational capability.

Naval Aviation. Vice Admiral Troy Shoemaker, Commander of Naval Air Forces, recently testified that 50 percent of the Navy's F/A-18 E/F Super Hornet community is currently mission capable, with only 31 percent fully mission capable (ready to fight tonight).⁵⁴ To assure the quality of naval aviators, the Navy should determine the minimum number of actual flying hours, not simulator time, required per quarter for naval aviators. When four Carrier Strike Groups were deployed in support of combat operations, Shoemaker stressed that "Naval Aviation Forces have been forced to cannibalize aircraft, parts and people to ensure those leaving on deployment had what they needed to be safe and effective while operating forward."⁵⁵

Recommendation 20: Fully Fund Navy Aviation. Congress must fund the Navy to procure 77 additional aircraft in FY 2019 over the current plan to begin to address strike fighter and other key capacity shortfalls, as described by Vice Admiral Shoemaker. The F-18s will help mitigate strike fighter shortfall as high-operational-use legacy F/A-18s that can be modernized and undergo service-life extensions. Congress should allocate \$485 million in R&D funding to the MQ-25 *Stingray* aerial-refueling unmanned aerial vehicle (UAV) for 2019, and the Navy should develop a plan to accelerate its development to reach its initial operational capability in summer 2018.

The Marine Corps: Remaining the Crisis Response Force

Like the other services, the Marine Corps is under immense budgetary pressure to balance the demands of current readiness, sustain repeated operational rotations with a smaller force, modernize or replace its aging equipment, and prepare for the future. It is well short of the size it needs to be to handle historically consistent operational tasks, much less the new requirements that have arisen, such as its contributions to the Marine Corps Forces Special Operations Command (MARSOC) and the establishment of Marine Corps Forces Cyberspace Command (MARFORCYBER).

At present, the Corps lacks the minimum number of aircraft needed to train its pilots;⁵⁶ its inventory of primary ground-combat vehicles, largely fielded in the 1970s and 1980s, is aged and rapidly obsolescing;⁵⁷ and current funding has been insufficient to return broken equipment to the operating

TABLE 6

U.S. Marine Corps End Strength

| Component | 2018 Total | 2019 Recommendation | 2019 total | 2023 total |
|-----------------|------------|---------------------|------------|------------|
| Marines Active | 186,000 | 3,000 | 189,000 | 194,000 |
| Marines Reserve | 38,500 | — | 38,500 | 38,500 |

NOTE: Years shown are fiscal years.

SOURCE: U.S. House of Representatives, “Conference Report to Accompany H.R. 2810–National Defense Authorization Act for Fiscal Year 2018,” November 9, 2017, <http://docs.house.gov/billsthisweek/20171113/HRPT-115-HR2810.pdf> (accessed November 13, 2017).

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TABLE 7

U.S. Marine Corps Platforms

| Equipment | 2018 Requested | 2018 NDAA | 2019 Recommendation |
|-----------|----------------|-----------|---------------------|
| CH-53K | 4 | 4 | 6 |
| KC-130J | 2 | 4 | 4 |
| AH-1Z | 22 | 29 | 29 |
| F-35B | 20 | 24 | 24 |

NOTE: Years shown are fiscal years.

SOURCE: U.S. House of Representatives, “Conference Report to Accompany H.R. 2810–National Defense Authorization Act for Fiscal Year 2018,” November 9, 2017, <http://docs.house.gov/billsthisweek/20171113/HRPT-115-HR2810.pdf> (accessed November 13, 2017).

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forces or to provide the training its forces need in order to attain and sustain competency in their war-fighting skills. Consequently, the 2019 NDAA should enable the Corps’ efforts to remain the country’s “crisis response force of choice.”

Recommendation 21: Fully Fund Marine Corps Modernization Programs. Congress should fully fund key modernization programs, such as for the Amphibious Combat Vehicle intended to augment (and eventually replace) the Vietnam-era Amphibious Assault Vehicle, and the Corps’ Aviation Modernization Plan, for which the 2019 NDAA should include the funding needed to accelerate procurement of F-35 and CH-53K aircraft.

Recommendation 22: Enhance Funding for Experimentation. Congress needs to enhance funding specifically for the Corps’ experimentation with organization and deployment. The Corps has assessed trends in warfare, especially as they

pertain to threats posed by major competitors like China, and determined that new capabilities will be needed to fight within the enlarged and more lethal threat zone posed by enemies. The 2019 NDAA should provide sufficient funding to support development of new concepts like “Littoral Operations in a Contested Environment,”⁵⁸ and supporting efforts to preclude U.S. forces from being pushed out of key regions and thus having to fight their way back in at greater cost to secure U.S. interests.

Recommendation 23: Increase the Marine Corps End Strength. Congress should continue to increase Marine Corps end strength from its current 185,000 active-duty Marines to a minimum of 194,000. The Corps has stated that it can responsibly increase the service by an additional 3,000 Marines per year.⁵⁹ To further this goal, the 2019 NDAA can set the conditions for stable funding for future years that supports this needed growth over time.

TABLE 8

U.S. Air Force End Strength

| Component | 2018 Total | 2019 Recommendation | 2019 Total | 2023 Total |
|-------------------|------------|---------------------|------------|------------|
| Air Force Active | 325,100 | 6,000 | 331,100 | 342,000 |
| Air Force Guard | 106,600 | 1,200 | 107,800 | 118,360 |
| Air Force Reserve | 69,800 | 800 | 70,600 | 76,640 |

NOTE: Years shown are fiscal years.

SOURCE: U.S. House of Representatives, "Conference Report to Accompany H.R. 2810—National Defense Authorization Act for Fiscal Year 2018," November 9, 2017, <http://docs.house.gov/billsthisweek/20171113/HRPT-115-HR2810.pdf> (accessed November 13, 2017).

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A larger Corps will make it possible to reduce the current deployment burden of less than a ratio of one to two for deployment to dwell time, which is unsustainable indefinitely; decrease high operational usage for any one piece of equipment or individual, thus extending the life of the item or person; and enable proper training, education, and preparation that ensures greater resilience of the force. Further, growth of new capabilities, such as MAR-SOC and MARFORCYBER, under the funding ceiling imposed by the BCA has come at the expense of standard operational units like infantry battalions and aviation squadrons, worsening the deployment burden borne by the fewer remaining units.

Recommendation 24: Fund Required Platforms. Congress should fully fund the Marine Corps' unfunded priorities list,⁶⁰ which includes unmanned aerial systems for MARSOC; additional training ammunition for artillery and mortar systems; multi-role radar systems; critical funding for facilities maintenance (among several "ground" category items); and the procurement of a number of additional aviation platforms. (See Table 7.)

Recommendation 25: Accelerate Acquisition of New Marine Corps Equipment. Congress should accelerate acquisition of new equipment that enables optimization of new capabilities and technologies, instead of simply applying new technologies to old primary platforms. While adding new components to old platforms extends the operational utility of legacy resources, new platforms are eventually needed to realize the full operational potential of advances in weapons, communications, sensors, and mobility.

The Air Force: Rebuild Full-Spectrum Combat Capability

Currently the Air Force is plagued with a shrinking force that flies mostly old platforms, while enduring a high operational tempo with a reduced number of maintainers and pilots. To reverse this trend, the Air Force must increase its numbers by 24,900 beyond its currently authorized end strength, institute retention programs, increase funding for flight hours and aircraft maintenance, and increase procurement rates in the next five years.

Recommendation 26: Increase the Air Force's End Strength. Congress should incrementally increase authorized Air Force end strength to 331,100 in FY 2019, to 342,000 airmen⁶¹ over the next five years, and to 350,000 by 2025.⁶² In 2017, Congress authorized 325,100 airmen positions, which will be filled as recruiting capacity and training pipelines expand to meet the need.⁶³ The Air Force is the only service that has continually downsized since 1991, and with 318,415⁶⁴ active-duty personnel, its current manning level is significantly below that required to meet current and future mission demands.⁶⁵ Recovering from the impact that end-strength reductions have created will not happen overnight as maintenance personnel and pilots take significant time and money to recruit and train.

Recommendation 27: Increase Operations and Maintenance Funds to Support More Flight Hours. The Air Force budget for flying operations should increase by 5 percent from \$18,262 million in FY 2018 to \$19,175 million in FY 2019, and a total of 35 percent over the next five years. Less than 50 percent of Air Force fighter squadrons are ready

TABLE 9

U.S. Air Force Platforms

| Aircraft Type | 2018 Requested | 2018 NDAA | 2019 Recommendation |
|---------------|----------------|-----------|---------------------|
| F-35A | 46 | 56 | 80 |
| KC-46A | 15 | 17 | 21 |
| C-130J | 0 | 0 | 4 |
| HC-130J | 2 | 3 | 2 |
| AC/MC-130J | 5 | 11 | 12 |

NOTES: All the numbers reference only the base budget. Years shown are fiscal years.

SOURCE: U.S. House of Representatives, "Conference Report to Accompany H.R. 2810—National Defense Authorization Act for Fiscal Year 2018," November 9, 2017, <http://docs.house.gov/billsthisweek/20171113/HRPT-115-HR2810.pdf> (accessed November 13, 2017).

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for full-spectrum combat operations, approaching readiness levels that have not been seen since the hollow force of the late 1970s.⁶⁶ Once pilots are qualified in combat platforms, they need to fly many more hours than allowed by the current program for operations and maintenance. In recent testimony, the Vice Chiefs of Staff for the Navy and Marine Corps stated that approximately one-third of their fleets of fighter aircraft were mission ready.⁶⁷

While the Air Force has yet to give specifics, it suffers from the same readiness challenges. This shortage of flyable aircraft, combined with a 3,400-aircraft maintainer deficit and insufficient funding for training, have resulted in fewer flight hours allotted for maintaining pilot proficiency.⁶⁸ Recovering from this state will require additional maintenance personnel, which will take time to acquire and train, and be accompanied by a significant increase in operation and maintenance funding.

Recommendation 28: Tackle the Pilot and Maintainer Shortfalls. Congress should head off the 3,400-aircraft⁶⁹ maintainer and 2,000 total pilot shortfalls⁷⁰ by instituting effective and targeted incentive programs. The exodus of high-quality maintenance and operations personnel is nearing a death spiral, driven on a dysfunctional tempo that demands flawless execution when deployed, and a starvation budget that minimizes flying time and hands-on maintenance opportunities when they are at home station. Air Force pilot-training commitments should be cut back to a seven-year obligation following flight school to entice the best Air

Force Academy students, Air Force Reserve Officer Training Corps students, and Officer Training School candidates to pursue a career in aviation. Pride and retention grow with quality, and flight-training capacity should expand to take on more students, and allow an increased level of screening that ensures that only the most competent, qualified pilots earn their wings.

Recommendation 29: Fund Incentive Pay for Critical Positions. Congress should fund the development of a robust incentive-pay program for aircraft maintainers that runs for the duration of a maintenance career, and increase flight-incentive pay for each of the four-year groupings by a factor of 10. The current pay bonuses target only aviators nearing the end of their active-duty service commitments, fail to value service members until they are dissatisfied enough to leave, and should be terminated.

Recommendation 30: Accelerate Acquisition of Advanced Platforms. Congress should fund the accelerated acquisition of fifth-generation fighter and advanced-tanker platforms, while pursuing bomber; tactical mobility; intelligence, surveillance, and reconnaissance (ISR); and electronic-attack-aircraft acquisition and upgrades. The Air Force has a total of 915⁷¹ of the 1,200⁷² combat-coded fighters it needs to meet global requirements. To re-establish required capacity, the Air Force should increase the acquisition of F-35A aircraft to 80 additional fighters in 2019, 90 in 2020, and 100 per year through the end of the program.⁷³ The KC-46 acquisition program must also

TABLE 10

All Services End Strength

| End Strength | 2018 NDAA | 2019 Recommendation | Change |
|--------------|-----------|---------------------|--------|
| ARMY | | | |
| Active | 483,500 | 492,000 | 8,500 |
| Guard | 343,500 | 344,000 | 500 |
| Reserve | 199,500 | 200,000 | 500 |
| NAVY | | | |
| Active | 327,900 | 332,900 | 5,000 |
| Reserve | 59,000 | 60,000 | 1,000 |
| MARINE CORPS | | | |
| Active | 186,000 | 189,000 | 3,000 |
| Reserve | 38,500 | 38,500 | — |
| AIR FORCE | | | |
| Active | 325,100 | 331,100 | 6,000 |
| Guard | 106,600 | 107,800 | 1,200 |
| Reserve | 69,800 | 70,600 | 800 |

NOTE: Years shown are fiscal years.

SOURCE: U.S. House of Representatives, "Conference Report to Accompany H.R. 2810—National Defense Authorization Act for Fiscal Year 2018," November 9, 2017, <http://docs.house.gov/billsthisweek/20171113/HRPT-115-HR2810.pdf> (accessed November 13, 2017).

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be accelerated to replace 50-plus-year-old KC-135s. The Air Force should increase the pace of acquiring the KC-46 by 36 aircraft over the next five years, with an additional four aircraft in 2018. Two HC-130Js and 12 A/MC-130J should be acquired to meet standing requirements. The Air Force should reaffirm its requirement for 155 C-130Js (truncated to 136 due to a lack of funding) and move to acquire 4 more C-130Js in 2019, and a total of 19 more over five years. A Joint Surveillance and Target Attack Radar System (JSTARS) replacement must also be developed.

Recommendation 31: Fund a Mix of High-Low Aircrafts. The Air Force ought to maintain a high-low mix of fourth-generation and fifth-generation aircraft. The total buy plan for F-35As should be reduced to 1,260–1,040 of which will be combat coded in the active-duty force, 60 will be combat-coded guard and reserve aircraft, and the remainder will fulfill active-duty training and operational test and evaluation requirements. Even with accelerated

production, the Air Force will not complete the purchase of 1,040 F-35As until the early 2030s, which means that dual-capable F-16s and F-15Es, as well as air-superiority F-15Cs, will be required for the foreseeable future. The A-10C is a simple platform to fly and sustain, and with \$4 billion in avionics and structural upgrades since 2008,⁷⁴ it can remain a viable low-threat combat platform well into the 2030s and quell the need to acquire a low-cost close-air-support replacement platform.

Military Posture

Recommendation 32: Revise Training Requirements. The Secretary of Defense should direct the services to review all training requirements and remove or significantly shorten any training requirement that does not further mission readiness. Over the past two decades, the number and type of non-mission-related training requirements have grown to the point where they now impede

mission readiness. The services ought to cut non-mission-essential training. Congress can request a report on training requirements and work from it.

Recommendation 33: Increase Pilot Production. Congress should direct the Air Force to incrementally increase pilot-production capability to 1,400 undergraduate student pilots per year. Currently, three specialized undergraduate pilot-training bases produce a total of 1,000 students per year with little to no screening or attrition through a course that takes 12 months to complete. The Air Force should move to compress the current course of instruction to 10 months, increasing total production capacity by 10 percent to 20 percent. A fourth training base should be activated, and specialized fighter and heavy pilot tracks should be terminated. The moves will allow a larger pool of pilot candidates, the potential for increased fighter-pilot production, as well as increase in the quality of graduates through screening.

Recommendation 34: Address Munitions Shortages. Congress should place particular attention on the munitions shortages. In times of budget downturn, military services typically reduce munitions procurements to save for the production of platforms. This trend has become particularly troublesome in this downturn. Each of the services has accepted risk in munitions, particularly high-cost precision munitions and antitank missiles. The problem is compounded when Congress does not pass a budget and has to rely on CRs, which do not allow for changes in the munitions orders.⁷⁵

Recommendation 35: Fund High-Energy Laser Development. Congress should fully fund the Navy's Rapid Prototyping, Experimentation, and Demonstration initiative that has programmed \$83.8 million for High Energy Laser with Integrated Optical-dazzler and Surveillance (HELIOS) in FY 2019, \$60.2 million in FY 2020, \$45.9 million in FY 2021, and \$30.1 million in FY 2022.⁷⁶ HELIOS is focused on accelerated fielding of laser weapon systems, specifically a 60 kW-class high-energy laser (with a growth potential to 150 kW) and dazzler in an integrated weapon system, for use in countering UAVs, small boats, and ISR sensors. The program will deliver two units in FY 2020, one for installation on a destroyer, the other for use at a land test site. This program has the potential to greatly increase the weapons payload capacity of DDGs and future ship classes since the high-energy laser has an unlimited capacity as long as the host ship can provide power.

Recommendation 36: Repeal the Conventional Prompt Global Strike Weapons System.

Congress should repeal the 2018 NDAA's section 1693, paragraph a on the conventional prompt global strike weapons system. It requires that the Secretary of Defense plan to "reach early operational capability for the conventional prompt strike weapon by not later than September 30, 2022."⁷⁷ It is premature to set an arbitrary early operational capability date and would overstep proper congressional oversight. The 2018 NDAA already requires the Chairman of the Joint Chiefs of Staff to report to Congress 180 days after enactment of the NDAA on the conventional prompt global strike weapons system to include "the estimated period for the delivery of a medium-range early operational capability."⁷⁸ An early operational capability date should not be established until this report is complete and the Secretary of Defense has established the program as an official acquisition program of record. As it stands, Congress is calling for a report and already dictating its outcome.

Systemic Changes

Among the three priorities expressed by Secretary Mattis for his tenure is reforming business practices of the military services and of the Defense Department itself.⁷⁹ The recommendations in the next sections address how Congress can help the department improve its management and become a better steward of taxpayers' dollars.

Personnel

Recommendation 37: Reform Military Health Care. Congress should reform the current TRICARE system—the DOD's health care program—and introduce a private-sector health insurance option for military family members. This would enable service members and their families to have more choices and would serve as a competition catalyst for the current TRICARE system. The Military Compensation and Retirement Modernization Commission, assessed that the "quality of TRICARE benefits as experienced by Service members and their families has decreased, and fiscal sustainability of the program has declined."⁸⁰ Its proposal, that Congress should follow, is the creation of a Basic Allowance for Health Care to enable service members to have access to health care plans that suit their needs, no longer forcing them to rely on the declining quality of the benefits offered by TRICARE. The proposal

would save an estimated \$3.9 billion in the first year of implementation.

Recommendation 38: Reform Basic Allowance for Housing. Congress needs to reform the rules for the Basic Allowance for Housing (BAH). BAH needs to be restored to its proper role of an allowance by requiring married military couples to share a single allowance and by requiring all service members to document their housing expenditures to receive the allowance. These changes would reduce costs and are completely appropriate. Congress should phase in more accurate housing allowances, since it is solely designed to help service members pay for accommodation. This is not military compensation. Service members are not entitled to, nor should they have any expectation, that money above what they pay for housing can be retained as extra compensation.

Recommendation 39: Reduce Commissary Subsidies and Combine Commissary and Exchange Systems. Congress should merge commissary and exchange systems. The DOD operates two parallel but similar organizations for providing service members and their families with access to goods and groceries. The commissaries provide groceries at cost plus 5 percent, which is only sustainable through an annual subsidy. In FY 2018, Congress subsidized the commissaries at \$1.4 billion.⁸¹ On the other hand, the military exchanges operate largely without subsidies by passing appropriate costs on to the consumers. Maintaining access to affordable groceries and goods is important for service members, particularly those stationed overseas or in remote locations. In the debates for the 2018 NDAA, Congress had a reporting requirement that would provide a cost-benefit analysis and aim at reducing the operational costs of commissaries and exchanges by \$2 billion. Congress should revisit the question and continue with reforms to the systems. This is especially important at a time that the Government Accountability Office has found that the DOD does not properly measure the benefits created by the systems.⁸²

Recommendation 40: Reform Schooling for Military Dependents. Congress should create real choice for military families and transition the Domestic Dependent Elementary and Secondary Schools (DDESS) system into a system of education savings accounts for military families. The current DDESS system serves only 4 percent of military-connected children.⁸³ Eighty percent of military-connected

children attend traditional public schools. Additionally, over one-third of service members consider their children's schooling a deciding factor in continuing their military careers.⁸⁴ The current system focuses on the needs of a miniscule minority to the detriment of the majority of its population.

There is no need for the military to operate schools in the United States. It is a vestige of the segregation years that no longer has utility. The Pentagon should promptly take action to close the schools and transfer military dependents to local school systems, a process that the Trump Administration has initiated.⁸⁵

Recommendation 41: Authorize Full Pay Raises as determined by the Employment Cost Index to assist in recruiting among a shrinking candidate pool. Demographic trends and lower unemployment rates mean that the department will have a more difficult time recruiting for the increasing Armed Forces. Adding to this problem is a growing number of individuals between the ages of 17 and 24 who are ineligible for military service. The Center for Naval Analyses estimates that only 29 percent of Americans in this age group are eligible for military service, based on recruitment practices and demographic trends.⁸⁶

Efficiencies

Recommendation 42: Authorize a New Round of Base Realignment and Closures (BRAC). Congress should authorize a new round of BRAC. For the past seven years, the DOD has asked Congress to authorize a new round of BRAC and it has been denied. The department has assessed that it has over 19 percent excess infrastructure that would be reduced through a BRAC.⁸⁷ This is an excess that burdens taxpayers and the department with unnecessary costs that would be better allocated elsewhere in the budget. The DOD estimates that a new round of BRAC would save \$2 billion in fixed costs.⁸⁸

A new round of BRAC should set a target reduction goal to reduce the infrastructure by a percentage that Congress can determine. There are multiple ways in which Congress can change how a BRAC round develops to quash questions and doubts that lawmakers might have.⁸⁹ From establishing different criteria for installation assessments, to having professionals dedicated to BRAC, Congress and the department can work together to mitigate all the questions that have led to the rejection of a new round of BRAC.

Recommendation 43: Lift the Moratorium on Private-Public Competitions. Under pressure from federal employee unions since 2012, Congress has prohibited competition between public and private organizations to determine which could provide more cost-effective services for the U.S. government. This moratorium extends to public-public competitions, which leads to situations where the municipality where a base is located cannot offer their services to the installation. DOD-specific competitions remain prohibited per section 325 of the 2010 NDAA.⁹⁰ Yet even critics will admit that “competition is the greatest single driver of performance and cost improvement.”⁹¹ The RAND Corporation has estimated that opening support services for the military to private competition could result in savings of between 30 percent and 60 percent.⁹² The common criticism levied against such competition is that the process has not been updated and has yield problems for both government and the private sector.⁹³ This is more reason for Congress to revisit Circular A-76 and engage with the question.

Recommendation 44: Increase Use of Performance-Based Logistics (PBL). Congress should incentivize and enable the broader use of PBL throughout the acquisition process. The Department of Defense should increase the use of PBL in weapon-systems maintenance and sustainment. It is estimated that these arrangements could save between \$9 billion and \$32 billion a year.⁹⁴ PBL is an arrangement in which the contractor is responsible for a larger portion of the support throughout the life cycle of the product. Thus, instead of having a contract that is associated with the delivery of a platform, it is associated with the proper functioning of said platform.⁹⁵ It serves to align the contractors’ interests with the DOD in maintaining the readiness of platforms. PBL is both DOD policy and a priority for product support solutions and it is estimated that it saves between 5 percent and 20 percent of contract costs.⁹⁶

Recommendation 45: Continue Reforming the Acquisition Processes. Congress needs to continue its efforts on acquisition reform. Since Representative Mac Thornberry (R-TX) and Senator McCain assumed their gavels on their respective Armed Services Committees, there has been a sustained emphasis on reforming how the Pentagon acquires goods and services. This emphasis should be continued in the 2019 NDAA. It is important to

think of the effort in incremental terms, rather than one big isolated change.⁹⁷ The emphasis for the coming NDAA should be on changing the incentives that the contractors face to enable more experimentation and more tolerance for small bets and failures. The current incentives of the system are to rely on one big platform, which creates a narrow lane for technological developments. This would focus on the core of the problems that plague the defense acquisition system and the unique characteristics of the defense market.

Recommendation 46: Exempt the DOD from Davis-Bacon. Congress should exempt the DOD from Davis-Bacon requirements to ensure that military construction projects are as affordable as possible. The Davis-Bacon Act requires that construction contractors pay prevailing wages when working on projects for the federal government. However, the prevailing wage rates used by the government bear no resemblance to actual market wages. As a result, the Davis-Bacon Act increases the cost of federally funded construction by 9.9 percent.⁹⁸

Recommendation 47: Remove Non-Defense Research Funding. Congress should keep non-defense research funding out of the NDAA. Congress has the bad habit of inserting non-defense research projects into the NDAA that do not directly contribute to the national defense or to the better functioning of the Armed Forces. These tend to concentrate around medical research, such as the Army’s Congressionally Directed Medical Research Programs.⁹⁹ These programs are better suited elsewhere in the medical community, be it inside or outside government. It is a stretch to argue that the Army is the best institution to conduct research on breast cancer.

Management

Recommendation 48: Develop Cost-Effective Auditing of the Department of Defense. Congress must examine ways to accomplish the purpose of an audit at a lower cost in future years. Public Law 111-84, section 1003 and Public Law 112-81, section 1003 direct the financial statements of the DOD to be “validated as ready for audit no later than September 30, 2017.”¹⁰⁰ The DOD has stated that it is now officially “under audit.” But new Pentagon Comptroller David Norquist has emphasized that it is unlikely that the DOD will receive a clean opinion on the audit anytime soon, and says he is focused instead on the opportunity the audit presents.¹⁰¹

Congress has a different perspective. There is a widespread, but misplaced belief in Congress that the DOD financial audit will identify large areas of waste or fraud, yet the audit experiences of other federal agencies and private corporations largely do not support that expectation. In the private sector, financial audits are primarily used to fulfill legal requirements and to increase investor confidence in financial statements, leading to a reduced cost to raise capital. There is no corresponding need for the DOD.

Audit results that lead to actual reduced waste or inefficiency are rare, and many companies that can legally escape undergoing financial audit choose to do so.¹⁰² There are better methods to reduce waste or inefficiency, such as “waste audits” or zero-based budgeting techniques. Further, many of the audit requirements imposed on private corporations make little sense when applied to the DOD. An example of the illogic of the financial audit construct as applied to the department is the requirement to precisely report the value of all \$2.4 trillion worth of its tangible assets, including decades-old equipment, like M113 armored personnel carriers purchased in the 1970s, and buildings constructed hundreds of years ago. This makes sense in the private sector, not in the DOD.

Norquist estimates that the 2018 audit of the DOD will require at least \$870 million to complete.¹⁰³ That is the equivalent of at least eight F-35A fighter aircraft, which U.S. forces desperately need. Costs may go down slightly in subsequent years, but nevertheless, Congress must examine ways to accomplish the purpose of an audit at a lower cost in future years.

Recommendation 49: Report on Alternatives to a Financial Audit. Congress should require the Pentagon to produce a report detailing options to reduce the money and effort required for a financial audit by allowing it to tailor audit requirements to only examine those areas which carry the potential for a significant return on investment.

Recommendation 50: Create a Program to Roll Over Unused Funds. Congress should authorize a program that allows the DOD to roll over unused funding to the next fiscal year. On October 1 of every fiscal year, any funding that remains unused vanishes. This creates the fear among DOD agencies that unused funds could mean less funding the next year. This leads to a “use it or lose it” mentality within the department, which leads to poor spending choices, as unnecessary purchases are made in the

interest of using up the funds. DOD agencies tend to spend up to 31 percent of their annual funds in the fourth quarter.¹⁰⁴ September is especially busy, with spending doubling in comparison with the other months of the year.¹⁰⁵

As Jason Fichtner and Robert Greene, economists at the Mercatus Center, assessed, this acceleration of federal spending decreases the quality of spending, as poor choices are made in the interest of quickly using funds.¹⁰⁶ So long as the entities do not benefit from saving funds, there is no incentive for them to spend more efficiently. A pilot program for specific Defense Department agencies enabling them to roll over 5 percent of their budget could go a long way to finding a solution to this problem across the entire department. This program would have the added benefit of helping the DOD cope with the constant continuing resolutions that erode spending authorities.

Recommendation 51: Reduce Top-Heavy Headquarters. Congress should require a comprehensive review of the senior DOD headquarters, including the services, to assess and remove excessive layers of bureaucracy. In the 2018 NDAA, Congress took the initiative to reduce the number of Deputy Assistant Secretaries of Defense from 60 to 48 and the number of Assistant Secretaries of Defense from 16 to 13.¹⁰⁷ This is a step in the right direction that is intended to reduce the headquarters bureaucracy. Nonetheless, it was focused only on the Office of the Secretary of Defense.

Recommendation 52: Review Reporting Requirements. Members of Congress should be cognizant as they write the 2019 NDAA that a portion of the workforce’s size in the Pentagon is directly driven by the need to prepare and review congressionally required reports. Reporting requirements have increased and crept up through time. These requirements lead to increased staff time dedicated to producing these reports. Congress should start to sunset reports that are no longer relevant and also be mindful to new reporting requirements.

Recommendation 53: Oppose Treaties that Harm National Security. Congress should push the Administration to promptly “unsign” the Arms Trade Treaty (ATT) and reject the Ottawa Convention and the Convention on Cluster Munitions (CMC). The ATT, the Anti-Personnel Mine Ban Convention (known as the Ottawa Convention), and CMC could have significant harmful effects on national security. The Senate has not provided its advice and consent

to any of these treaties, the latter two have not been transmitted to the Senate, and none of them is in the U.S. national interest.

Arms Trade Treaty. The U.S. has not ratified the ATT, and a bipartisan majority of the Senate opposes its ratification on the grounds that it is vague, easily politicized, and could hinder the U.S. in fulfilling its commitments to provide arms to key allies. Many other leading arms-exporting and arms-importing countries also oppose the ATT, but despite its own assertion that any ATT that did not include all U.N. members would be “less than useless,” the Obama Administration signed the ATT in 2013, and belatedly transmitted it to the Senate in December 2016.

Recommendation 54: Reject Funding for ATT Implementation. Congress should reiterate its previous rejections of funding to implement the ATT domestically, and should, in addition, prevent the ATT from being used as the basis for domestic prosecutions, ban U.S. financial contributions to the ATT’s secretariat, and require that the ATT ratification process include House and Senate implementing legislation. As of 2017, the U.S. paid more of the administrative budget for the ATT than any nation except Japan. Finally, Congress should condition the payment of fees to attend the ATT’s annual conferences of states parties by requiring that such fees not exceed the amount reasonably required to pay the actual costs for attendance by the U.S. delegation.

Anti-Personnel Mine Ban Convention. The U.S. has not ratified this convention and it has never been submitted to the Senate. U.S. anti-personnel landmines meet or exceed all relevant international standards, and the U.S. employs such landmines responsibly. Studies by the North Atlantic Treaty Organization (NATO) and other organizations confirm their military utility, and in 2014, the Chairman of the Joint Chiefs of Staff stated that anti-personnel landmines remain “an important tool in the arsenal of the armed forces of the United States.”¹⁰⁸ But in June 2014, the Obama Administration banned their use outside the Korean Peninsula.

In the 2017 NDAA, Congress prohibited the destruction of U.S. anti-personnel landmine stockpiles before the DOD completes a comprehensive study on department policy on the use of landmines as required in the 2016 NDAA.¹⁰⁹ This study should contain a 10-year inventory and cost projection for current stockpiles, a similar projection for

replacement munitions, and an assessment of the effects of the projected inventory on operational plans, as well as the briefing on the current state of R&D into operational alternatives to anti-personnel landmines required by the 2017 NDAA.

Recommendation 55: Prohibit the Destruction of Landmine Stockpiles. Congress should repeat the requirements and prohibitions contained in the 2017 NDAA, and should also ban funding for the destruction of existing stockpiles until the DOD certifies that the replacement of anti-personnel landmines by alternative munitions will not endanger U.S. or allied forces or pose any operational challenges. In spite of the fact that the study mandated in the previous two NDAs has not been published, the conference report on the 2018 NDAA contains no similar provisions.¹¹⁰

Cluster Munitions Convention (CMC). The U.S. has not ratified this convention, and it has never been submitted to the Senate. In 2009, Harold Koh, legal adviser to the Department of State, stated that the U.S. national security interest “cannot be fully ensured consistent with the terms of the CMC.”¹¹¹ In 2001, Secretary of Defense William Cohen stated that future U.S. cluster munitions would have a 99 percent or higher functioning rate, thus reducing the danger of unexploded ordnances. This policy also allowed U.S. forces to retain and use “legacy” cluster munitions until they were replaced by more reliable models.

In 2008, Secretary of Defense Robert Gates stated that after 2018 the U.S. would only use munitions with a functioning rate of 99 percent or higher. The only U.S. munition that meets this standard is the CBU-105 Sensor Fused Weapon (SFW). The U.S. has not budgeted funds to purchase the SFW since 2007, and in 2016, its manufacturer—Textron—announced it would discontinue production of the SFW.

As of May 2017, Jim Shields, the head of the U.S. Army’s Program Executive Office Ammunition, stated that the deadline creates “capability gaps that we are really concerned about.”¹¹² As an interim measure, the U.S. is purchasing Swedish munitions and is considering Israeli munitions, while developing a new M30A1 warhead, which replaces the explosive sub-munitions in conventional cluster munitions with 180,000 tungsten steel balls. Shields notes that the U.S. has “initiated de-milling all of our cluster munitions, but we have put a hold on that because we don’t know what the current Administration’s position is with regard to the use of cluster munitions.”¹¹³

In late November 2017, the Department of Defense announced a modification of the 2008 policy, which requires military departments to program for capabilities that meet the 99 percent standard while maintaining a stockpile of existing cluster munitions sufficient to meet operational needs. These stockpiles will not be demilitarized until sufficient quantities of munitions that meet the 99 percent standard are available. Finally, Combatant Commanders are now authorized in cases of immediate warfighting need to accept transfers of cluster munitions that do not meet this standard, and to use these munitions in combat.

Recommendation 56: Ban the Destruction of Cluster Munitions. Congress should support the November 2017 policy by prohibiting the destruction of U.S. cluster munitions stockpiles until the DOD completes a comprehensive study on these munitions and Congress explicitly authorizes the DOD to resume its de-milling program. This study should assess the military utility of cluster munitions, provide an inventory of current stockpiles coupled with a study of past U.S. patterns of cluster-munitions use and an assessment of the effects of the closure of the SFW line, and make an assessment of the current state of R&D, acquisition, and deployment of operational alternatives to conventional cluster munitions.

Defense Industrial Base

Recommendation 57: Support the Seamless Integration of the National Technology and Industrial Base (NTIB). The 2017 NDAA required the Secretary of Defense to develop a plan to “reduce the barriers to the seamless integration” of the NTIB.¹¹⁴ The 2019 NDAA should support reforms that will make it easier for the U.S. to export defense technologies to its closest allies, the United Kingdom and Australia. These should include allowing all defense-related exports to be licensed to these close allies absent a U.S. decision to refuse within a specified and limited time period, and the system-level licensing of such exports, which would allow the automatic and immediate export of follow-on parts, components, servicing, or technical plans. Canada is already rightly treated separately under U.S. law, and the Defense Secretary’s plan should reflect this fact and ensure that its exemption is updated to show the pending completion of export-control reform, and to remove any other impediments discovered in the course of preparing the plan.

Protectionist and “Buy American” Policies

“Buy American” is a great bumper sticker and political slogan, but it is bad economic and security policy. The concept is simple: The DOD should buy from American companies and suppliers. Economically, this does not make sense. Protectionist policies like Buy American—or tariffs that protect specific industries—hurt the U.S. economy more than they help.¹¹⁵

Protectionist policies also mean that the DOD, and therefore American taxpayers, pay more for a given product or service than they should. The Buy American Act sets a price preference for domestic products by requiring the DOD to add 50 percent of the lowest offer’s price to the offer if it is from a foreign company.¹¹⁶ After applying the additional 50 percent to the foreign offer, the DOD then determines which offer is the best value for the department. Often the price preference ensures that a domestic producer will win the bid.¹¹⁷

This means that a project that could have cost the DOD \$20 million could cost American taxpayers as much as \$30 million before a foreign bid could be considered. The DOD is also subject to the Berry Amendment, which restricts the DOD from using funds to purchase food, clothing, tents, and certain other goods unless the items are “entirely grown, reprocessed, reused, or produced within the United States.”¹¹⁸

In addition to the existing protectionist procurement laws, in the 2018 NDAA an amendment was proposed to include stainless steel flatware on the list of products subject to the Berry Amendment. This amendment would have limited flatware supply for the DOD to a single company, a prime example of the government picking winners and losers at the expense of American taxpayers.¹¹⁹ While the amendment was defeated, it should serve as a lesson to Congress about the consequences of pushing “Buy American” policies too far under the guise of protecting national security.

Recommendation 58: Oppose Attempts to Expand “Buy American” Laws to Procurement for Use Outside the U.S. Buy American provisions increase costs and cause delays in defense procurement. The Buy American Act currently contains a provision exempting procurement for use outside the United States. A similar provision in the Berry Amendment exempts products procured for use “outside the United States in support of combat

operations,” as well as food and some other products for use “outside the United States in support of contingency operations.”¹²⁰ From a national security perspective, the DOD already has the authority and flexibility to avoid relying on potential adversaries for critical resources or capabilities. Free and open competition among friendly countries will produce the best products and best prices, and ensure that America’s service members overseas receive the supplies they need when they need them.

Recommendation 59: Oppose Imposition of Buy American Laws on Allies. Congress should further oppose efforts to impose Buy American laws on successful partnerships with allied countries. There is no national security rationale for excluding companies in allied countries from competing for DOD contracts.¹²¹

Functional Capabilities Priorities: Nuclear Capabilities and Missile Defense

The NDAA should signal solid bipartisan support for ensuring that the U.S. nuclear deterrent remains safe, secure, reliable, and credible for the U.S. and her allies. It ought to lay the ground work for continuing deterrence dialogues with U.S. partners and supporting nuclear cooperation with the United Kingdom and NATO members.

Recommendation 60: Continue Modernization of the U.S. Nuclear Delivery Platforms and Nuclear Weapons Complex. Congress needs to continue the modernization of the U.S. nuclear platforms and complex. U.S. nuclear delivery systems and nuclear weapons complexes are old and in need of replacement. If they are not modernized, the U.S. will lack critical capabilities, for itself and its allies, as the world becomes more dangerous.¹²² Further delays increase the overall costs of the nuclear weapons program and leave the U.S. less capable of responding to unexpected developments in the nuclear programs of other nations.

Recommendation 61: Advance Sound Arms Control Policies. Congress should not provide funding for implementation of agreements that put the U.S. at a disadvantage and that do not benefit national security—such as the New Strategic Arms Reduction Treaty, and the Intermediate-Range Nuclear Forces Treaty, which Russia is violating.¹²³ Congress should not provide funding for unilateral nuclear weapons–reduction efforts, especially while all other nuclear players are modernizing and

expanding their arsenals. Congress should build on its 2018 NDAA efforts to create options for the Administration to punish arms-control violators. It should also prohibit any funding for implementing international agreements, such as the Comprehensive Test Ban Treaty, unless such treaties were signed by the President, received the advice and consent of the Senate, and were the subject of implementing legislation by Congress.

Recommendation 62: Continue Developing Layered Missile Defense Systems. Congress ought to continue developing a layered, comprehensive missile defense system, including funding future missile defense technologies like boost-phase and space-based interceptors. The system should be able to address various ranges of ballistic missiles in various threat scenarios. Currently, the U.S. continues to lag behind the ballistic missile threat, particularly as far as the protection of the East Coast from a long-range ballistic missile threat goes.¹²⁴ Space-based interceptors provide the best opportunity to accomplish these tasks at the best cost-per-interceptor ratio.

Functional Capabilities Priorities: Space Capabilities

The 2018 NDAA called for an independent federally funded R&D center to study and recommend a plan to establish a separate military department responsible for the national security space activities of the DOD. The logic of giving an *independent* research team the answer of a “Space Corps” and then asking them to build a plan to make it happen can only be viewed with skepticism.¹²⁵

Any legitimate study based on a predetermination of need for a new space service would propose legislative language that consolidates and gives that new service control of the entire portfolio of DOD space assets. While that might be a healthy recommendation, it would face a storm of criticism and be fought by every other service and agency with space assets due to the loss of control of their current portfolio—and thus not likely be realized. Reorganizing only the assets within the Air Force would be a costly and counterproductive mistake for the whole of the DOD.

Recommendation 63: Designate the Secretary of the Air Force as the Executive Agent for Space Acquisition. Congress should re-align and revitalize the trajectory for U.S. dominance in space by designating the Secretary of the Air Force as the Executive Agent (EA) for Space Acquisition. The

services, the U.S. Strategic Command, and the Joint Chiefs of Staff would all retain their roles and control in defining requirements to meet their respective tasks and responsibilities. As the EA for the whole of Space Acquisition, the Secretary will ensure that the assets acquired to meet those requirements allow the United States to not just survive the competition for space dominance, but stay on top of it.

The EA would ensure that there are no gaps in capabilities across the department, and deliver systems that are resilient to near-peer competitors' demonstrated and future offensive capabilities. The EA will also ensure the DOD's designee to helm U.S. space oversight (formerly known as the Principal DOD Space Advisor) is armed with information and system options that the U.S. needs to gain and maintain an offensive upper hand in space.

Once designated, the EA for Space Acquisition should designate a general officer intimately familiar with space-asset acquisition as the Space Program Executive Officer to lead and manage the acquisition of the department's space portfolio of assets. This officer should be selected from a pool of joint candidates, and have a mandated tenure of no fewer than four years.

Functional Capabilities Priorities: Cyber Capabilities

The U.S. military uses technologically advanced devices to maintain its ability to win on the modern battlefield. Communications systems and weapons guidance systems are among the areas where the DOD has adopted new and powerful technologies that make the military more effective, efficient, and responsive. However, these systems must remain secure to be effective. The department must do more to secure them and prevent enemies from exploiting any potential U.S. cyber vulnerabilities. Congress should use the NDAA to:

Recommendation 64: Continue to Develop Defensive and Offensive Cyber Capabilities at U.S. Cyber Command. Congress needs to support the development of cyber capabilities. Cyber defenses should be developed alongside offensive capabilities. Cyber deterrence, a key priority for the U.S. military, necessitates both strong defensive tools as well as offensive tools. The ability to defend systems and mitigate the effects of an attack enhances deterrence by reducing the effectiveness of an attack in the first place. When coupled with strong offensive

cyber tools, an adversary may be deterred due to the high risk of attacking a critical U.S. system, and the low chance of reward due to U.S. countermeasures.¹²⁶ Every portion of the DOD has a need for defensive cyber tools to protect critical data and infrastructure from intrusions and attack.

Recommendation 65: Reject Cybersecurity Cooperation with Malicious Nation-States. Congress should bar the DOD from spending any money on cyber collaborations with malicious nation-states. Nation-states, and their agents, continue to illegally access and steal from the networks of U.S. military, military-affiliated, and private individuals and companies. But, given the anonymous nature of the attacks, these heads of states publicly denounce any act of cyber espionage or aggression. Historically, the governments of China and Russia have shown themselves to be unreliable partners in cyberspace.

Recommendation 66: Increase Cybersecurity Cooperation with Allies. Congress should increase training cooperation and exchange programs with close allies. Many cyber threats are shared among allies, and enhancing interoperability and tactics could strengthen cyber defenses. Engagement should not only occur after an attack takes place, but as a regular part of training. The Russian cyber threats against the Baltic states' energy infrastructure are a perfect example of the need for increased cooperation.¹²⁷ Building the capacity of partners, like those in the Baltic, to defend themselves is an important step for strengthening the alliance as a whole.¹²⁸

Recommendation 67: Continue to Leverage Technical Expertise Outside the DOD. Congress should allow the DOD, and other security-related government agencies, to explore more opportunities to take advantage of technical expertise outside the department and government. Cyber issues reach beyond the networks of the military, and the department should continue to leverage the expertise of the private sector. The DOD has started to do so with its "Hack the Pentagon" campaign with HackerOne, a bug bounty platform created by security leaders from Facebook, Microsoft, and Google.¹²⁹ Launched in 2016, the three-year campaign allows U.S.-based hackers to test the cyber vulnerabilities of public-facing DOD networks for a bounty. Earlier this year, one hacker was able to access the restricted internal DOD network from the public goarmy.com website.¹³⁰ The U.S. Air Force also has launched its own "Hack the Air Force" campaign.¹³¹

Alliances

Another important piece of the three priorities that Secretary Mattis put forward is engaging with allies and strengthening America's alliances.¹³² Alliances are one of the big differentiators between the United States and its potential peer-competitors. The U.S. has a broad network of allies that should be cultivated and nurtured, whereas its rivals do not.

Recommendation 68: Continue to Engage with Europe on Security Matters. Congress should continue to robustly fund the European Deterrence Initiative (EDI). In addition, the U.S. should return large-scale, long-term forward basing of U.S. forces back to Europe.¹³³ While rotational forces have improved the U.S. defense posture in Europe, permanent forces provide a much greater deterrence value than do rotational troops.

Funding for the EDI has increased from \$985 million in 2015 to \$3.4 billion in 2017.¹³⁴ For FY 2018, the DOD has requested a \$1.4 billion increase, raising EDI funding to \$4.8 billion.¹³⁵ The EDI has allowed the United States to increase its engagement with allies in Europe after decades of increasing disengagement, which culminated in the deactivation of two permanently stationed brigade combat teams, one in 2012 and the second in 2013. The Commander of U.S. European Command (EUCOM) General Curtis Scaparrotti described the importance of the EDI, then named the European Reassurance Initiative (ERI), saying:

Thanks in large measure to ERI, over the last 12 months EUCOM has made demonstrable progress. U.S. tanks have returned to European soil. U.S. F-15s and F-22s have demonstrated air dominance throughout the theater. U.S. naval forces have sailed throughout European waters. EUCOM has operationalized its Joint Cyber Center.... EUCOM delivered the first new operational plan for the defense of Europe in over 25 years. ERI also supports high-end exercises and training, improved infrastructure, and enhanced repositioning of equipment and supplies.¹³⁶

Recommendation 69: Ensure that NATO Retains its Lead Role in European Defense Matters. Congress should discontinue its reflexive support for European defense integration, in particular the creation of an EU army. Instead, the U.S. should focus on advancing a "NATO first" agenda, one that ensures American engagement and influence in

European-related defense matters. NATO has been the cornerstone of transatlantic security for almost seven decades. It affords the U.S. a level of influence in the region commensurate with the amount of troops, equipment, and funding the U.S. commits to Europe.

The creation of duplicative European Union structures, whether an unnecessary and expensive EU operational headquarters or the aspirational EU army, weakens NATO. It also threatens to decouple the U.S. from European defense matters. EU defense integration undermines NATO by siphoning off scarce resources from the Alliance. Any money spent on the EU's Common Security and Defense Policy (CSDP) is less money that can be spent on NATO. In addition, the veto power of six non-NATO EU states (five of which are neutral), almost guarantees that any EU assets would not be available for NATO operations.

The CSDP has not delivered increased military capability for the U.S. or for NATO. It rather competes with NATO for scarce European defense resources. This in turn undermines NATO, the ultimate guarantor of transatlantic security, a dangerous proposition especially in light of Russian aggression. U.S. allies in Europe should focus on fixing NATO, and living up to their Article III commitments under the North Atlantic Treaty "to maintain and develop their individual and collective capacity to resist armed attack."¹³⁷

Recommendation 70: Direct the Air Force to Relocate a Squadron of A-10s Back to the NATO Airbase in Europe and create a permanent A-10 forward operating location in the Baltic region. The Air Force should develop a Collocated Operating Base plan for contingency operations in Europe, and authorize funds for stateside units to exercise deployments to each location within that plan every other year beginning in 2019.

Recommendation 71: EUCOM Should Formally Lead in the Arctic. Congress should designate EUCOM as the lead Combatant Command to coordinate efforts in the Arctic, which would help with these overlapping issues. Three U.S. Combatant Commands—EUCOM, Pacific Command (PACOM), and Northern Command (NORTHCOM)—have areas of responsibility in the Arctic, and all have overlapping areas of interest. This creates challenges to coordinating the efforts among the commands, as it is unclear how issues would be handled in overlapping areas of interest.

Eight countries—Canada, Denmark, Finland, Iceland, Norway, Russia, Sweden, and the U.S.—are

each seeking to defend their national interests in the Arctic as resources become available and shipping lanes open. Russia especially has increased its military presence and focus on this region, looking to capitalize on the newly available resources. Russia has increased its basing and has added more resources to the north.¹³⁸

While PACOM and NORTHCOM also have responsibilities in the Arctic, EUCOM has the most territory, along with close relationships with the other major countries involved as the lead command for NATO. It also leads the European Deterrence Initiative, which can affect the Arctic and the countries involved in the region. The U.S. should consider formally designating EUCOM as the lead to create a process for de-conflicting or coordinating efforts. EUCOM is the natural choice to lead the combatant commands in the Arctic.¹³⁹

Recommendation 72: Prioritize Security Cooperation Among the Countries of the Quadrilateral Security Dialogue (QSD). Congress should prioritize and provide resources for security cooperation among the QSD countries: Australia, India, Japan, and the U.S. The first QSD dialogue was held in early 2007, but it was suspended in 2008 when the Australian government announced it would no longer participate, following reservations expressed by China. However, the Trump Administration recently held a working-level quadrilateral dialogue covering regional security issues in Manila in November 2017.¹⁴⁰ The four Indo-Pacific democracies of the QSD could play a vital role in maintaining a rules-based international order in Asia, supporting freedom of navigation and maritime security, as well as coordinating counterterrorism efforts.

One key element of QSD cooperation could be the annual Malabar naval exercise, which has become a large display of geopolitical force as India, Japan, and the U.S. bring significant resources to bear each year. Australia has been excluded from the exercise in past years, having only participated once, possibly because of its withdrawal back in 2008, something the Indian government has not forgotten.¹⁴¹ Continuing the official QSD security dialogues and building the political support in India to include Australia in the annual Malabar exercise would enhance regional stability and security by strengthening ties and interoperability among the four militaries.

Conclusion

The 2019 NDAA should continue the effort to rebuild and restore America's military forces. The funding level of \$664 billion for defense discretionary spending would represent a strong commitment to reaching that goal. It is important to continue the work of increasing the lethality of the Armed Forces, while reforming how the Pentagon does business and strengthening alliances. The NDAA is the instrument through which Congress can mold U.S. national security. The recommendations of this *Special Report* would allow Congress to play its proper role in restoring the Armed Forces' readiness, capacity, and capability. This would be another step forward in the long road to rebuilding the United States military.

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