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CENTER FOR NATIONAL DEFENSE

## About the Editor

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This paper, in its entirety, can be found at **http://report.heritage.org/sr222**

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# How the 2021 National Defense Authorization Act and the Defense Appropriations Act Can Prepare the U.S. for Great Power Competition

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*The 2021 National Defense Authorization Act and the Department of Defense Appropriations Act are key tools for helping the Department of Defense (DOD) adapt to great power competition. The process of preparing for great power competition will not be a fast one, nor is it a matter of simply giving the DOD more resources. It will require prioritizing the long-term challenge posed by China and Russia, while divesting from previous efforts that do not contribute to meeting those challenges. Even if the United States dedicated all federal taxpayer dollars to the defense of the nation, the DOD would still have to make hard decisions about which capabilities are necessary now and in the future, as well as about the level of readiness of each unit. The 2021 authorization and appropriations acts are excellent opportunities for Congress to help the DOD make those decisions.*

The National Defense Authorization Act (NDAA) and the Department of Defense Appropriations Act for fiscal year (FY) 2021 are key tools for helping the Department of Defense (DOD) adapt to great power competition, as described in the 2018 National Defense Strategy (NDS).[1] The process of preparing for great power competition will not be a fast transition, nor a matter of simply adding more resources to the DOD. It will require making choices that prioritize the long-term challenge of the People's Republic of China (PRC) and the Russian Federation, while divesting from previous efforts, be they platforms or doctrine, that do not contribute to meeting those challenges.

Even if the United States were to dedicate all federal taxpayer dollars to the defense of the nation, the DOD would still have to make hard decisions about which capabilities are necessary and which should be developed, as well as about the level of readiness of each unit. In the current context, in which the defense budget is at a historic low of around 15 percent of all

federal spending,[2] these decisions are even more salient. This year's authorization and appropriations acts are excellent opportunities for Congress to help the Defense Department make those decisions.

## The State of Military Rebuilding

The Administration of President Donald Trump has placed an emphasis on rebuilding the military readiness that eroded in the previous decade. There is a considerable lag time between the input of resources and the output of increased readiness, lethality, or force structure. It took years for the cracks to start showing, and, by the same token, it will take years for these cracks to disappear.

The Heritage Foundation's *2020 Index of U.S. Military Strength* documents some important improvements in readiness.[3] The *Index* grades each service and overall U.S. military power in terms of capacity, capability, and readiness on a five-point scale, ranging from "very weak" to "very strong," with "marginal" being the medium score. In the aggregate, the United States military continues to be marginally able to meet the demands of defending America's vital national interests. It is a force only capable of prosecuting one major regional conflict.

However, below the sustained "marginal" score, there are some improvements worth highlighting. The Army's readiness went from "strong" to "very strong," while the Air Force's readiness went from "weak" to "marginal." The nuclear arsenal also experienced substantial improvements in its readiness. The Marine Corps went overall score from "weak" to "marginal," largely as a reflection of its improved readiness, which also experienced the same score improvement. The Navy's score did not change.

The previous Secretary of Defense, James Mattis, described that reality and the need for continued effort and attention in 2017 when discussing the Department of Defense's budget: "We all recognize that it will take a number of years of higher funding delivered on time to restore readiness."[4] Right now, the country is seeing the initial results of this effort. However, fully restored readiness will take time to achieve. Additionally, because readiness is inherently perishable, it will require constant tending.

## The National Defense Strategy

Since its release in January 2018, the NDS has moved the conversation in Washington toward understanding what great power competition is, and what the implications are of determining that great power competition should be the guiding parameter of U.S. national security policy.

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Congress has an important role to play in implementing the NDS and preparing the country for great power competition. Lawmakers need to explain to the American people how taxpayers' dollars are being allocated to the right priorities and to hold the executive branch accountable for implementing the strategy. Congress can and should ask members of the executive how they are focusing on competition against Russia and the PRC. Great power competition in the 21st century is a whole-of-government effort, not just a task for the military.[5]

## The Bipartisan Budget Act of 2019 and the End of the Budget Control Act

The passage in August 2019 of the Bipartisan Budget Act modified the budget caps for FY 2020 and FY 2021, raising total discretionary spending by $324 billion over two years.[6] The budget caps had been in place since the passage of the Budget Control Act of 2011, which set limits on discretionary spending for the 10 fiscal years from FY 2012 to FY 2021, among other provisions.[7] The defense limits were insufficient for meeting the needs of the country. This led to uncomfortable bargains in which lawmakers who wanted to raise the defense cap had to cede increased levels of discretionary non-defense spending.[8] The Bipartisan Budget Act raised the defense and non-defense caps.[9] However, it made no effort to properly prioritize between core constitutional responsibilities, like national defense and non-defense needs.[10]

So-called "parity," the idea that defense and non-defense spending should be treated equally, is a failed legacy of the Budget Control Act and the Obama Administration. This is evident even in President Barack Obama's budgets, which never requested spending levels for domestic programs as high as the levels included in the Bipartisan Budget Acts. In other words, neither President Obama nor President Trump had plans to spend the increase in domestic programs prior to being provided the money under the congressionally driven spending agreements. This problem is reflected in the appropriations bills, which show a massive disconnect between the

Administration and Congress on priorities that provides a ripe environment for waste.

Providing for the national defense is a core function of the government enumerated under the Constitution. It is therefore not surprising that throughout much of the nation's history, it has been appropriate that national defense received more discretionary funding than non-defense programs. From 1962 to 2000, national defense spending accounted for an average of 58 percent of annual discretionary spending, while non-defense spending averaged 42 percent. Since 2000, defense spending has averaged just under 51 percent of total discretionary spending, while non-defense has averaged over 49 percent.[11] Lawmakers should develop the habit of prioritizing discretionary spending based on needs.

Since the Trump Administration came into office, there has been a concerted effort to prioritize resources for defense within the discretionary budget. From FY 2016 to FY 2020, there was a substantial increase of over 20 percent of the nominal defense budget, from $624 billion to $757 billion.[12]

However, that growth is scheduled to slow down in FY 2021. The defense budget is expected to increase by 0.3 percent from FY 2020 to FY 2021. The increase is determined by the Bipartisan Budget Act of 2019, which set the defense caps to $740.5 billion, $69 billion of which was under the Overseas Contingency Operations (OCO) account.[13] The cap for FY 2020 was $738 billion, $71.5 billion of which was under OCO. Those budget limits fall short of the 3 percent to 5 percent real growth recommended as necessary until 2023 by then-Secretary of Defense James Mattis[14] and current Secretary of Defense Mark Esper,[15] and which the National Defense Strategy Commission confirms as necessary in order to implement the strategy.[16]

At the same time, it is critical for lawmakers to acknowledge the real trade-offs that are required to implement the defense strategy. The "parity" strategy around budgeting is both poor budgeting and dangerous, as it jeopardizes the levels of defense spending that are required over the next several years. Furthermore, Congress must address non-defense programs that contribute to the budget's long-run unsustainability.[17] If ignored, overspending on domestic programs will cause significant challenges for national security in the future.

## 74 Recommendations for Congress and the Services

This *Special Report* outlines 74 recommendations on how Congress and the services can shape the National Defense Authorization and the Defense

TABLE 1

## Defense Discretionary Budget

IN BILLIONS OF DOLLARS

| Year | Base Budget Authority | Overseas Contingency Operations | Budget Control Act/Bipartisan Budget Act Totals | 3 Percent Real Growth from 2016 | 5 Percent Real Growth from 2016 |
|---|---|---|---|---|---|
| 2016 | 548 | 58.9 | 607 | — | — |
| 2017 | 551 | 82.5 | 634 | 631 | 643 |
| 2018 | 629 | 65.2 | 694 | 666 | 678 |
| 2019 | 647 | 68.8 | 716 | 732 | 746 |
| 2020 | 667 | 71.5 | 739 | 751 | 765 |
| 2021 | 672 | 69 | 741 | 778 | 792 |

**SOURCES:** Congressional Research Service, "The Defense Budget and the Budget Control Act: Frequently Asked Questions," *Report to Congress*, September 30, 2019, https://fas.org/sgp/crs/natsec/R44039.pdf (accessed February 13, 2020); Congressional Research Service, "Overseas Contingency Operations Funding: Background and Status," *Report to Congress,* September 6, 2019, https://fas.org/sgp/crs/natsec/R44519.pdf (accessed February 13, 2020); and authors' calculations based on data from Congressional Budget Office, "Budget and Economic Data: Historical Data and Economic Projections," January 2020, https://www.cbo.gov/system/files/2020-01/55022-2020-01-historicaleconomicdata.zip (accessed February 13, 2020).

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Appropriation Acts to better prepare the country and the Department of Defense to face the challenges of great power competition.

**Resources.** The leadership at the Department of Defense has repeatedly stated that it needs consistent budgetary growth to be able to implement the National Defense Strategy.[18] However, political realities have dictated otherwise. Congress and the DOD need to work together to properly prioritize defense.

**Recommendation 1: The discretionary base budget (050) for the Department of Defense should increase above inflation in FY 2021.** Within the constraints of the discretionary budget set by the current caps, the base defense should be $710 billion. It would represent a total increase of more than 6.5 percent in the base budget over the base cap under the Bipartisan Budget Act of 2019. This level of spending could be achieved through non-defense spending reforms within the FY 2021 cap and would serve to properly prioritize the federal government's discretionary expenditures and better position the United States for great power competition.

The increased level of funding is necessary for the military services to better balance its competing priorities of providing current levels of readiness and modernizing and preparing for deterrence in the context of great

power competition. Every service is going through the challenge of prioritizing its efforts, and the increased funding will provide a better margin and context in which to make those decisions.

**Recommendation 2: The overseas contingency operations (OCO) account for the DOD should be reduced to $50 billion in FY 2021.** The overseas contingency operations should be reduced from $69 billion to $50 billion to start rebalancing the funds toward the base budget. The end of the BCA should serve to rebalance the defense budget toward the base and restrict the OCO account to actual contingencies.[19] However, there is no reason to wait until then to start adjusting the defense budget for it to better reflect actual base funding needs.

It is very unlikely that the White House or the DOD will be willing to work to change the defense caps set by the Bipartisan Budget Act of 2019.[20] This unwillingness will leave the DOD in a place in which there is only a nominal increase, from the $738 billion to $740.5 billion, which falls short of meeting the levels required to build up defense to an adequate level.

**The Military Services.** Each of the services is facing unique challenges in how to re-orient its current force structure to great power competition and set priorities accordingly, while sustaining operational demands. The recommendations in this section detail how each service, including the Space Force, should prepare for the future, and how Congress can help.

*The Army.* The Army is working to implement the changes necessary to move toward the goals of NDS and the challenges of great power competition. This will require a modernized Army that is able to engage in two major regional contingencies at the same time, giving the nation the deterring and warfighting capabilities necessary to meet the objectives in the NDS.

**Recommendation 3: The Regular Army should expand by 3,000 soldiers, from 483,941 to 486,941.** Army leaders have stated that the Army is too small for its current requirements. This shortfall causes risk in the execution of the NDS and results in an inability to sustain readiness, creates too high an operational tempo, and constrains experimentation.

Former Army Chief of Staff General Mark Milley stated in 2017, "I believe, and have believed for quite some time, and I have testified to it, that the Army needs to get bigger.... We need to grow in order to meet the demands that the nation expects at the readiness levels it expects."[21] General Milley in the past has said the Regular Army should be in the neighborhood of 540,000.[22] In 2019, then-Secretary of the Army Esper said: "I can't tell you what the Army end strength will be. I know it has to be above 500,000. I know it has to be above 500,000 in the regular Army—and...associated growth in the Guard and Reserve."[23]

Due to missed recruiting goals in 2018, the Army scaled back its goals for growth in 2020, but nevertheless managed to achieve an actual strength of 483,941. If the Army continues to grow at a rate of only 2,000 soldiers a year, it will take the Army until 2030 to reach 500,000 soldiers. That is too long a time to accept risk. The Army appears to have now found the key to better recruiting methods, and Congress should take advantage of this success to increase the size of the Army by 3,000 in 2021, putting the Army on a path to reach 500,000 by the mid-2020s.

**Recommendation 4: Congress should direct the Army to establish an additional armored brigade combat team (ABCT) by 2023.** This additional ABCT would be the 12th Regular Army ABCT, bringing the total of Regular Army BCTs from 31 to 32. Since ABCTs are being employed in a "heel-to-toe" rotation plan in both Korea and Europe, they are one of the Army units most in demand. In 2019, the Army will only field 31 active BCTs, 19 below the 50 that Heritage Foundation defense analysts assessed as necessary for meeting a two-major-regional-contingency (MRC) requirement.[24] Some critics question the need for a two-MRC force. The Administration's own 2018 NDS does not fully embrace a two-MRC construct, calling instead for a force capable of simultaneously "defeating aggression by a major power; deterring opportunistic aggression elsewhere; and disrupting imminent terrorist and WMD threats."[25]

But the bipartisan National Defense Strategy Commission, composed of distinguished national security experts, unanimously concluded that "a two-war force sizing construct makes more strategic sense today than at any previous point in the post-Cold War era."[26] Furthermore, the NDS does not explain how the U.S. could hope to "deter opportunistic aggression" without the ability to *actually fight* a second conflict. Thus the assessment by Heritage analysts remains that the Army needs a two-MRC force of 50 BCTs, and should gradually increase its number of Regular Army BCTs from 31 to 32 by creating an additional ABCT.

**Recommendation 5: Congress should require the Army to provide a report on the cancelled solicitation for the optionally manned fighting vehicle (OMFV).** On January 16, 2020, the Army withdrew its solicitation for the OMFV with officials stating that "it is clear a combination of requirements and schedule overwhelmed industry's ability to respond within the Army's timeline."[27] There was concern that only one competitor had entered the program and there was speculation that none of the entrants met all the requirements. This occurred despite the Army's effort to engage industry, and its well-publicized efforts to combine requirements writers with acquisition professionals in cross-functional teams.

The Army had requested $377 million in 2020 to develop this capability. Congress cut $172 million when it saw there was only one competitor in the program. Now that the solicitation has been withdrawn, the Army's remaining $205 million in 2020 is at severe risk of being taken by others for higher priorities, resulting in a 2020 net loss of buying power to the Army of $377 million. Because of decreased DOD procurement spending, combined with a net loss of defense industry corporations, competition for U.S. defense contracts will be harder and harder to maintain.

Analysts at one think tank described the reduction in defense contracts in land combat vehicles during the period after the Budget Control Act was imposed as "catastrophic."[28] Before Congress applies more money to this program, it will need a clearer understanding of how this costly misstep occurred, whether a goal of increased competition in this sector is realistic, and how the Army will prevent this situation from occurring in the future.

**Recommendation 6: Congress should support the Army's tough decisions to defund legacy programs in order to fund new generations of equipment.** When preparing the Army's 2020 budget, then-Secretary of the Army Esper and then-Chief of Staff of the Army General Milley famously resorted to a "night-court" to conduct a zero-based review of Army programs to find money to fund their modernization programs.[29] This review resulted in cuts to programs like the CH-47 Chinook Block II and upgrades to the M2 Bradley. Neither of these cuts was popular and there were efforts by Congress to resist them. Supposedly the Army continued to make tough choices when preparing the 2021 budget. Although it is painful for both industry and Congress to cut some of these programs, the Department of Defense has to make these choices if it wants to field a modernized and relevant force. Continual upgrades to platforms like the Stryker combat vehicle, the M1 Abrams tanks, the Bradley fighting vehicle, and current fleet of helicopters must be foresworn if the Army is to have the money to make the jump to the next generation of capability. Therefore, in order to fund new equipment, Congress should support those program reductions and terminations that the Army can justify.

**Recommendation 7: Congress should investigate the force disposition of Army units.** The NDS calls for better disposition of forces, stating that the United States must have the capability to "blunt" enemy attacks and to prevent the enemy's attainment of objectives before U.S. and allied forces can respond. The current Army force posture lacks sufficient forward forces, particularly in Eastern Europe, for enabling this strategy.[30] Poland and the United States have recently concluded an agreement for some additional Army units to be located in Poland, which is a good but insufficient

step. The DOD recently announced a plan to reactivate the Army's V Corps headquarters, with some 200 soldiers rotating through Europe. This is good, but the Army needs a full division headquarters, an air defense battalion, and a permanently stationed Armored Brigade Combat Team—all in Europe at the same time. Congress should encourage the DOD to pursue the stationing of these additional forces and require a DOD report on its feasibility.

**The Navy and the Marine Corps.** Consideration of the 2021 defense appropriation and authorization for the Navy and Marine Corps comes at a time of dramatic change in the two services. Both are deeply engaged in comprehensive assessments of the changing security environment, as well as the implications of the NDS and its direction to re-orient itself from sustained irregular warfare to competition among great powers. For both services, this means re-assessing operating forces in terms of the equipment they use, the design of units and formations, how their forces might be employed, and what they will need in the future. There is also the need to free up resources within existing budget limits in order to start research and development for new capabilities, or to have the legal authority to re-allocate funding from one previously approved project to a newly identified need.

The challenge for the two services and for Congress is to appreciate the uncertainty that accompanies these efforts at analyzing the changing operational and threat environments, characterize relevant capabilities, determine which portions of existing force capabilities meet requirements and which need to be eliminated, and what type of new capabilities are suggested by experimentation and operational concept development. The two services are asking the right questions and have committed themselves to figuring out what they will need, but they do not yet have those answers and therefore cannot register new requirements in this budget cycle. At the same time, they have a pretty good sense of what they will *not* need, and which programs they need to accelerate, sustain, truncate, or end. They will be reluctant to request funding for items that would ultimately be a waste of taxpayer monies.

*The Navy.* The Navy is moving to operationalize its concept for distributed maritime operations (DMO),[31] which envisions a fleet comprised of a larger number of smaller vessels, is more strike-oriented, and can operate in a more disaggregated fashion than is currently the case.[32] In 2019, the Navy embarked on a force structure assessment (FSA) that would redefine its fleet requirements, with the goal of publishing such during the fall. In mid-summer, General David Berger assumed position of the Commandant of the Marine Corps and initiated a series of bold actions to re-orient the Corps for potential action in the Indo–Pacific region and to fully integrate

it with the U.S. Navy in terms of operational naval power.[33] An essential part of Marine Corps efforts involved rethinking amphibious capabilities[34] and how the Corps could assist the Navy in obtaining sea denial and sea control against a peer competitor, namely the People's Republic of China.[35]

In turn, this led to Marine Corps involvement in the Navy's FSA, reshaping it from a pure-Navy effort to an Integrated Naval Force Structure Assessment (INFSA),[36] which will account for both Navy and Marine Corps requirements. However, this modification, as well as interest from the Secretaries of the Navy and Defense, led to delay in its progress, with the release date moved from January 2020 to "sometime in the spring" of 2020.[37] Consequently, the changes to Naval force structure—the types and quantities of ships the Navy believes it will need in its future fleet—will not be available to inform the 2021 NDAA or Defense Appropriations Act.

Increased funding that Congress provided over the past three fiscal years allowed the Navy to support greater surface-ship operational proficiency, improved ship and aviation depot maintenance, increased stock of aviation spares, and more flying hours, as well as to purchase additional ships and aircraft to increase fleet size. The Navy has also done a good job of increasing its end strength, which has helped it correct manning shortfalls on its ships.

Although these larger defense appropriations have helped the Navy to address readiness and modernization challenges, it will take years to restore complete readiness, increase fleet capacity, and field new capabilities. The most optimistic projections do not envision a fleet of 355 ships until 2034, and even then, only by extending the life of all DDG 51 Arleigh Burke-class destroyers.[38]

**Recommendation 8: Congress should increase funding for accelerated procurement of Virginia-class nuclear-powered attack submarines (SSNs).** The Navy's requirement for attack submarines is 66, yet the current fleet only has 51 attack submarines. Congress should add one Virginia-class submarine from the Navy's unfunded priority list to the FY 2021 request.[39] The Navy would then procure two Virginia-class SSNs in FY 2021 and two SSNs each year until the completion of the program.

**Recommendation 9: Congress should provide full funding for the Columbia-class ballistic missile submarine program.** Building the Columbia-class ballistic missile submarines are the Navy's, arguably the nation's, top-priority defense priority. When complete, these 12 submarines will "carry a staggering 70 percent of the country's nuclear arsenal."[40] The Navy intends to procure the first boat in FY 2021 and Congress should ensure that this happens.

**Recommendation 10: Congress should fully fund the Navy's Shipyard Infrastructure Optimization Plan.** The Navy's shipyard

optimization plan is a 20-year plan for public-shipyard-infrastructure modernization to improve obsolete dry docks and production-facilities conditions and layout, and to replace aging equipment.[41] This modernization is critical for reducing current ship maintenance backlogs as well as meeting the maintenance needs of a much larger future fleet. The estimated cost for the Navy is approximately $21 billion over 20 years, well above the Navy's historical infrastructure budget, and will negatively affect other readiness and acquisition programs if the Navy does not receive additional funding in FY 2021 and beyond. This funding for shipyard modernization will also assist the Navy's goal of eliminating "lost operational days" due to maintenance delays by the end of FY 2021.[42]

**Recommendation 11: Congress should fully fund research and development (R&D).** Congress should fully fund the R&D required in FY 2021, as requested by the Navy, to support Navy efforts to define its unmanned platform requirements. The Integrated Naval Force Structure Assessment (INFSA) will address the extent to which unmanned systems, both surface and undersea, contribute to the Navy's vision of distributed operations, and how unmanned platforms will augment and amplify the ability of a distributed naval force to successfully compete against an enemy fleet. Experimentation and DMO concept development will clarify specific capabilities—but only with adequate funding.

*The Marine Corps.* Like the other services, the Marine Corps has been under immense budgetary pressure to balance the multiple 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 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)—nearly 3,000 Marines—and the establishment of Marine Corps Forces Cyberspace Command (MARFORCYBER).

The Marine Corps has made gains in readiness: reducing backlogged maintenance, replenishing inventories of parts, and returning broken equipment to operational status that helped units and individuals, such as pilots, to do more training. The budget for FY 2021 should sustain needed levels of support. Readiness is fragile and force competency and capacity depends on a stable flow of funding that enables essential training alongside operational deployments and the development of new capabilities to meet evolving challenges.

**Recommendation 12: Congress should fully fund Marine Corps modernization programs.** Congress should fully fund key modernization

programs, such as for the Amphibious Combat Vehicle (ACV) intended to augment (and eventually replace) the Vietnam-era Assault Amphibious Vehicle (AAV), and the Corps' Aviation Modernization Plan, for which the 2021 NDAA should include the funding needed to accelerate procurement of F-35 and CH-53K aircraft. The ACV program is now a program of record leading to production vehicles entering the Corps in the latter part of 2020.[43] This should receive Congress's full support, as the AAV is approaching half a century in age.

For its aviation portfolio, the Corps' decision to pursue an all-F-35 fleet meant that it declined to join the Navy in purchasing the Super Hornet, the latest version of the F/A-18, leaving it with rapidly aging Hornets and increasing the importance of fielding the F-35 as quickly as possible. Similarly, the Corps' ability to move and sustain ground forces that have become heavier due to the evolving need for additional armor on the modern battlefield means that the CH-53K is now essential for battlefield mobility. The 2021 NDAA should account for both conditions—modern aviation assets in both fixed and rotary wing fleets—in its support of Marine Corps warfighting capabilities.

**Recommendation 13: Congress should support Marine Corps goals to field a highly mobile anti-ship missile.** General Berger has been explicit in his intent to equip Marine Corps forces such that they can assist the Navy in gaining access to contested waters and to deny an enemy navy use of the same. Congress should support Marine Corps efforts to acquire a "mobile and rapidly deployable...anti-ship missile."[44]

**Recommendation 14: Congress should support Marine Corps requests to adjust acquisition initiatives to better align modernization with new operational concepts and force design.** The Marine Corps regularly publishes its thinking on future combat and implications for the tactics, techniques, organizations, and capabilities (usually manifested in equipment and how it will be used) that it will need to succeed in future battle environments. The Marine Corps Operating Concept,[45] the Littoral Operations in a Contested Environment,[46] and the Expeditionary Advanced Base Operations[47] all posit a combat environment that will feature opponents wielding advanced military capabilities (weapons, sensors, and platforms across all domains and energy spectrums), and thus require the Corps to operate more dispersed, with less signature, and more nimbly.[48] This implies that Marine Corps acquisition programs and capability portfolios will likely need to change. However, current programs and portfolios were initiated years ago and do not seem to have been influenced by the Corps' new thinking. The 2021 NDAA should include a provision that calls

for the Corps to explain how its new concepts are affecting, or will affect, its program going forward.

**Recommendation 15: Support Marine Corps–Navy Adjustments to shipbuilding programs in the forthcoming INFSA.** The Corps is developing new concepts that have substantial implications for the capabilities that it will need in the coming years—especially those fielded by the U.S. Navy. These include the ships, Combat Logistics Force ships, and ship-to-shore connectors, and supporting aviation platforms (manned and unmanned) and weapons systems that the Navy will use to support Marine Corps operations in a Naval campaign so that the Corps can, in turn, support the Navy in its efforts to project the naval power of the two services.

As noted in detailed analysis from the Congressional Research Service, the Navy's current 30-year shipbuilding plan is heavily skewed toward a few large, multi-purpose warships. Additionally, the plan includes an objective, dating to 2009, but most recently revalidated in 2016, of 38 amphibious ships.[49] Both the Navy and the Marine Corps have explicitly rejected the underlying assumptions that serve as the basis for the current 30-year plan, especially the 38-ship amphibious requirement.[50] The Navy has both questioned its ability to afford more than 310 ships without significant budget relief,[51] and assessed the 355-ship objective as likely being too low.[52] Again, many questions related to shipbuilding programs affecting the Marine Corps and the Navy will be answered in the forthcoming INFSA.

*The Air Force.* During the Air Force Association's 2018 annual conference, Secretary of the Air Force Heather Wilson announced the results of a study to determine how large the Air Force needs to be in order to meet the 2018 NDS that directs the services to prepare for strategic competition with China and Russia.[53] Based on thousands of war-game simulations, the study determined that the Air Force needs, among other things, one additional strategic airlift squadron, seven additional fighter squadrons, five additional bomber squadrons, and 14 additional tanker squadrons to execute that strategy and win such a war. This list equates to at least 15 more tanker aircrafts, 50 more bombers, 182 more fighters, and 210 more refueling aircraft than the Air Force currently has in its inventory.[54] When asked, both the Secretary and the Chief of Staff said that no fourth-generation aircraft would be procured to fill that void, and that all new acquisitions would be fifth-generation fighter/bombers and the KC-46.[55]

The main challenges facing the Air Force in implementing the NDS are: building and sustaining the capacity, capability, and readiness levels required to fight and defeat a peer competitor, which requires a plan to increase readiness levels, refresh and expand the Air Force's fleet of aircraft,

commensurate funding, and a secession of leadership teams dedicated to making it happen. There are multiple ways in which Congress can help the Air Force accomplish these goals.

**Recommendation 16: The Air Force should execute the plan detailed in "The Air Force We Need" (TAFWN) immediately.** The emphasis should be on acquiring one additional strategic airlift, seven additional fighter squadrons, five additional bomber squadrons, and 14 additional tanker squadrons. Congress should accelerate the acquisition of the most modern and deployable weapons systems currently available, including 100 F-35s in FY 2021, 110 in FY 2022, and 120 in FY 2023; and 18 KC-46 tankers in FY 2021, 20 in FY 2022, and 25 in FY 2023.

**Recommendation 17: The Air Force should sustain the current fleets of B-1, B-2, and KC-10 aircraft.** The current fleets of B-1, B-2, and KC-10 aircraft should be sustained until the Air Force accepts the delivery of sufficient B-21 and KC-46 aircraft to fulfill the airframe requirements of TAFWN. Bringing the B-21 Raider up to initial operating capability standards and fielding that jet in the numbers required to support an operational plan will not likely occur until well into the 2030s, which means that the Air Force will rely on the B-1s, B-2s, and B-52s that it currently has in its inventory to support any war plan through the mid-2030s. The current buy plan for the KC-46 is capped at 179 aircraft. Assuming the Air Force acquires all 179 KC-46 aircraft, and sustains its entire fleet of KC-10 and KC-46 refuelers, it will still fall 31 refueling platforms short of TAFWN.

**Recommendation 18: Congress should increase Air Force end strength to 337,100 airmen in 2021, and to 350,000 by 2025.** New airmen billets will be filled as recruiting capacity and training pipelines expand, but graduation rates across the spectrum of Air Force career fields need to accelerate to meet the need. Gaining the end strength required to manifest the Air Force Secretary's vision is critically important and it must be done methodically. Yet, if the Air Force is to be ready for a full-out war with a near-peer competitor in the 2020s, accepting further delay in accelerating the pipeline for most career fields can no longer be tolerated.[56]

**Recommendation 19: The Air Force should institute flying-hour contracts with operational and training wings in FY 2021 that increase combat-coded fighter flying hours by a minimum of 20 percent over FY 2020 hours.** Overall flying hours were cut by more than 8 percent from what was flown in FY 2019 to what was budgeted for FY 2020[57]—during a period when readiness rates were supposed to rise, not fall. Flying-hour contracts set a specific number of flying hours that each wing must fly during the fiscal year—a contract that wing commanders

and their subordinate maintenance commanders must fulfill. Years of underfunding during sequestration, coupled with requirements to push what spare parts there were to warfighting units, caused the Air Force to abandon these contracts. The contracts were replaced with flexible and easier-to-reach flying-hour goals, with the understanding that most wings would still fail to meet them. The new contracts must stretch the manpower and materiel assets of each wing—and respective commander evaluations should be based on fulfilling those contracts.

**Recommendation 20: The Department of Defense should standardize the way the services, contractors, and government agencies calculate costs per flying hour (CPFH) for all military aircraft.** In many assessments, CPFH calculations for the F-35 include the costs associated with maintaining all targeting, night vision, electronic self-protection, and logistics systems (ALIS). Variations of those same sub-components are required for the F-16C, F-15E, F-15X, and all other current and future fighter aircraft platforms, but they are they are not included in their respective CPFH calculations. The maintenance requirements for electronic countermeasures (ECM) pods, targeting pods, night vision devices, and the personnel and equipment required to track and sustain aircraft performance is expensive.

The fact that those costs are included in some, and excluded from other, CPFH calculations makes valid comparisons impossible for both Congress and the American public. Congress should standardize the CPFH for every combat, combat support, or training platform in the Defense Department inventory to include consumables, maintenance costs of the aircraft and every system and subsystem required to complete a one-hour mission in each aircraft.

**Recommendation 21: Congress should request that the Air Force re-establish standing operational readiness inspection teams trained to evaluate the ability of units to rapidly mobilize, generate, and fly combat sorties.** These teams should be formed immediately to assess wing combat readiness on a recurring two-year cycle. Individual squadron-readiness assessments throughout the Air Force are now conducted by the unit's squadron commanders themselves, based on the additive metrics of aircraft mission-capable rates, aircrew and maintenance personnel qualifications, spare parts, and other readiness factors.[58] While those metrics certainly measure what units possess, they in no way convey how ready those squadrons are to fight[59]—and few commanders are willing to step beyond those metrics to declare that their own squadrons are not ready for a peer-level conflict. Assessments from within the service should be made by teams

that are unassociated with the evaluated unit, and should be trained for that specific purpose.

**Recommendation 22: The Air Force should adjust the bed-down schedule for the F-35A to prioritize forward-based active-duty units in the Pacific Air Forces, the Air Forces in Europe, and, then, the Air Combat Command before the Air National Guard.** In 1987, the U.S. had 29 fighter squadrons in Europe, and 14 more in and around South Korea to keep the North Korean regime in check. Combined, the Air Forces in Europe and the Pacific Air Forces, had 43 combat-coded fighter squadrons—11 more than the 32 total active-duty squadrons the Air Force currently has in its inventory today, and just seven short of the 50 total of today's total force fighter-squadron equivalents.

The demands of the NDS require sufficient positioned combat power to thwart a move by either China or Russia with little or no warning. The lack of forward basing, coupled with low stateside readiness levels, would prevent a rapid response, much less timely reinforcement. Today's "total force" Air Force would likely be able to deploy just 30 of its 50 available force fighter squadron equivalents to fight a peer competitor. In order to bolster the capability of forward-based and stateside units that could rapidly meet an emergency deployment, the Air Force should adjust the bed-down schedule for the F-35A.

Because of the readiness challenges associated with the Air National Guard's part-time force, the Air Force should return the Air Force Reserve Command to its critical role as strategic reserves for the United States and allow the Guard and Reserve to reset the health of their respective force structures. As it recovers manpower, Air National Guard operational fighter squadrons should be increased from an average of 18 primary assigned aircraft to 24.

**Recommendation 23: The Air Force should cut the duration of pilot training, the introduction to fighter fundamentals, and all aircrew replacement training by 20 percent, and increase the number of annual training classes by a commensurate level by the end of FY 2020.** In 1939, the Army Air Corps graduated 249 pilots from a 12-month flight school. With war on the horizon, the Army shortened the duration of flight school to 10 months in 1939, and to seven months in 1940.[60] Most every course within the current Air Force training pipeline has timelines that can be compressed without sacrificing quality. In fact, quality needs to rise.

In FY 2018, the Air Force graduated 1,200 pilots; in FY 2019, the Air Force graduate 1,279 pilots.[61] The Air Force has a projected class of 1,480 in 2020. The Air Force should continue to increase pilot production capacity to

handle 1,700 pilot candidates, in order to not merely handle demand, but to increase the quality of the graduates. The production projections for 2020 rely on a graduation rate of nearly 100 percent for every pilot training class, and the Air Force is already close to that mark. In 2016, the graduation rate was 93 percent; in 2017, it was 98 percent; and in 2018, it was 97 percent.[62]

Those graduation rates defy historic thresholds. Between July 1939 and August 1945, the Army Air Corps flying school graduated 193,440 pilots, and approximately 124,000 cadets failed.[63] In the 1980s, the annual graduation rate averaged around 82 percent.[64] As the Air Force prepares for competition with a peer-adversary, it must increase standards within and screening rates for flight school, and pipeline beyond.

*The Space Force.* The youngest force has its first budget request in FY 2021, which will serve to start establishing its personnel, mission, and programs. The main question is how the Space Force will start to incorporate other services' space assets, and how it will operate within the context of the Department of the Air Force.

**Recommendation 24: Congress should give the Secretary of Defense the authority to transfer military and civilian personnel, equipment, and facilities from the Army, Navy, and Marine Corps to the Space Force.** The NDAA for FY 2020 only authorized the transfer of Air Force personnel and assets to the Space Force.[65] Excluding personnel and assets from the other services has given the Secretary of the Air Force time to focus on building a strong organizational foundation by using personnel and assets from that department alone. To expand the new service to its full complement and capability in FY 2021, Congress should give the Secretary of Defense the authority to transfer personnel and assets to the Space Force from all three services, not just one.

This authority will allow the Secretary of Defense to reduce bureaucracy, streamline the U.S. space enterprise across the Defense Department, and give the Chief of Space Operations the ability to organize, train, and equip the preponderance of U.S. military space assets, fulfilling the stated purpose for establishing the new service.

**Strategic Deterrence.** America's nuclear arsenal is the backstop for the U.S. deterrence position, and as such it has to be modern and relevant. However, the United States has deferred the modernization of its nuclear arsenal multiple times, and every year that it does so, erodes the arsenal's reliability.

**Recommendation 25: Congress should fully fund the President's budget request for modernization of U.S. nuclear delivery platforms and the nuclear weapons complex.** U.S. nuclear delivery platforms are

old and need to be replaced without further delay in order to avoid gaps in the U.S. strategic deterrent as the threat to the United States becomes increasingly complex. Congress must fully fund the Ground-Based Strategic Deterrent (GBSD), the B-21 bomber, the Long-Range Standoff Weapon, and the Columbia-class submarine. These programs have been supported by the previous two Administrations and thoroughly evaluated; dilatory maneuvers, which often take the form of mandates for additional studies, must be rejected.

Additionally, even though Northrop Grumman is the only competitive entrant for the GBSD program, Congress must move forward in order to field GBSD before Minuteman III missiles obsolesce. Congress must also appropriate the full budget request for the National Nuclear Security Administration so that it can move forward with its long-term challenge of life-extending or modifying warheads for the new delivery platforms and producing plutonium pits to replace those in aging weapons.

**Recommendation 26: Congress should require the Secretary of Energy to conduct a zero-based review of all Department of Energy defense activities.** In 2019, Secretary of Defense Mark Esper directed a zero-based review of all DOD activities to find efficiencies and savings that can be redirected toward modernization priorities.[66] Given the DOD's top priority of nuclear modernization, this strategy should also be applied to Department of Energy (DOE) defense activities, which include the National Nuclear Security Administration, defense environmental cleanup, national laboratories, and "other defense activities" (budget function 053). The FY 2020 budget for DOE defense activities included instances of funding requests for non-defense DOE efforts.[67] Especially considering recent attempts to cut DOE defense funding,[68] the Secretary of Energy should free up as much money as possible for nuclear modernization.

**Recommendation 27: Congress should resist attempts to scale back the deployment of the W76-2 warheads on the Trident II missile.** Congress authorized and appropriated funding for the Navy to complete its deployment of the W76-2 warhead on its Trident II sea-launched ballistic missile (SLBM) in FY 2019 and FY 2020. As numerous senior military leaders have testified, the deployment of this low-yield warhead fills a crucial gap in U.S. deterrence against Russia by providing a credible, proportionate response to the Russian threat to strike first with a low-yield weapon in order to "escalate to de-escalate," or "escalate to win."[69] Any attempts by opponents of this program to undo the deployment of the W76-2 warhead would not only result in a costly undertaking, but would also be extremely disruptive to the Navy's nuclear deterrence mission.

**Recommendation 28: Congress should fully fund the Administration's request for research and development of intermediate-range, ground-launched ballistic and cruise missiles so that the services can begin the acquisition process as quickly as possible.** The FY 2020 NDAA prohibits funds for the procurement or deployment of post-Intermediate-range Nuclear Forces (INF) Treaty missiles while the Defense Department studies deployment and basing options, but the DOD must start developing these missiles to respond to the growing Russian and Chinese threat. The United States has fallen drastically behind Russia, which now deploys an intermediate-range ground-launched cruise missile, and China, which has developed an entire rocket force that holds U.S. bases, assets, and allies at risk in the Pacific.[70] Fielding ground-launched, intermediate-range missiles would provide the United States with a responsive strike capability that can stay forward-deployed during conflict in both Europe and the Pacific.[71] Congress should authorize funding to move into the post-INF missile production phase as soon as possible. Continuing to delay such acquisition would cede a critical advantage to U.S. adversaries.

**Recommendation 29: Congress should require the National Nuclear Security Administration (NNSA) to submit a report on the future need for yield-producing nuclear weapons experiments.** To certify that warheads in the aging U.S. stockpile will function as intended when employed, the NNSA's Stockpile Stewardship Program uses a combination of legacy nuclear test data and data from non-nuclear experiments to conduct computer simulations of a nuclear detonation.[72] Yet, as warheads change over time through aging, refurbishments, and modifications, simulations using old data may no longer apply to weapons in their current state. Especially as the NNSA begins to design new warheads, producing decisive, positive evidence that the stockpile will succeed without explosive testing will prove challenging.[73] Meanwhile, the Defense Intelligence Agency has reported that Russia has likely resumed testing activities to improve its nuclear weapons capabilities, despite its official commitment to the Comprehensive Test Ban Treaty.[74]

To help mitigate the consequences of an emergency need to resume testing in the future, Congress ought to require the Administrator of the NNSA and the Directors of the National Laboratories to submit a report describing resources and actions required to restart underground nuclear tests, along with an assessment of the conditions that would necessitate such yield-producing experiments. The report could be classified, however, it should include an unclassified summary.

**Recommendation 30: Congress should reject attempts to endorse or require a nuclear "no first use" policy.** The FY 2020 NDAA required

an independent study on adopting a declaratory policy to not use nuclear weapons first,[75] despite repeated opposition from senior DOD officials and military leaders. Establishing a no-first-use policy would undermine the credibility of the nuclear umbrella provided to U.S. allies as well as the United States' nuclear deterrence posture against its adversaries, who might become emboldened by the perception of a weakened U.S. resolve.[76] Congress should reject any attempts to insert a provision in support of a no-first-use policy.

*Missile Defense.* In an era of great power competition, in which the People's Republic of China has emphasized building area denial through the use of missiles, and in which Iran has put American bases under threat through missiles, it is especially important to continue advancing U.S. missile defense systems.

**Recommendation 31: Congress should provide adequate research and development funding to field a space-based sensor layer as quickly as possible.** From the ultimate high ground, space-based sensors can detect missile launches from almost any location, from boost to terminal phase, unlike ground-based radars that have a limited tracking range.[77] Space-based sensors can help to track hypersonic vehicles in particular, which fly at lower altitudes than ballistic missiles, and which can maneuver during their trajectories. Additionally, space-based sensors can provide basing for space-based interceptors, a worthwhile future investment due to their unique ability to engage missiles during boost phase of flight.[78]

Despite lack of a funding request in the President's FY 2020 budget, Congress authorized $108.0 million for the prototype of the Hypersonic and Ballistic Tracking Space Sensor (HBTSS) program, which will consist of a proliferated constellation of sensor satellites in low-Earth orbit to detect missile launches across the globe. Since the U.S. capability to track hypersonic missiles precedes any capability to defeat them, Congress should continue to fund this program at no less than $140.0 million, in order to start fielding HBTSS as quickly as possible. Consistent with the FY 2020 NDAA, the Missile Defense Agency (MDA), not the Space Development Agency, should have sole responsibility for this project in order to avoid duplicative programs.

**Recommendation 32: Congress should require the Secretary of Defense to take steps to mitigate the risk created by the delayed arrival of the Next Generation Interceptor (NGI).** The MDA's recent cancelation of its Redesigned Kill Vehicle (RKV) program as well as its plan for developing the NGI has the potential to leave a gap in interceptor capability for the Ground-Based Midcourse Defense (GMD) program. The NGI

is set to have advanced capabilities tailored to defend the country from an increasingly complex threat, thus the interceptor can provide a long-term solution to homeland missile defense interceptors.

But, the NGI may not be ready until at least 2030,[79] even though the MDA had intended to deploy the RKV beginning in 2021 both to replace the aging Exoatmospheric Kill Vehicle (EKV) and to top the 20 new ground-based interceptors deploying to Alaska.[80] Therefore, Congress should require the Secretary of Defense to take steps to mitigate the risk created by the delayed arrival of the NGI to ensure that there will be no gap in capability critical to defending the homeland. Steps should include addressing the obsolescence and aging of the existing EKVs as well as options for an "underlay" to be deployed more quickly to protect the homeland and truly provide a layered defense, as endorsed in the 2019 Missile Defense Review.[81]

**Recommendation 33: Congress should not provide funding for the East Coast missile defense site until the DOD establishes clarity on the availability of an interceptor capability for this site.** The DOD recently designated Fort Drum, New York, as the preferred future missile field site in the contiguous United States.[82] However, the cancelation of the RKV program has created uncertainty about the availability of a future interceptor to be part of the ground-based site. Considering the MDA's smaller future budget,[83] Congress should not allocate funds for this third site until the DOD has defined the NGI program and established program estimates. Until then, the DOD should continue to assess whether the future threat landscape dictates a need for an East Coast missile defense site.

**Recommendation 34: Congress should require the Secretary of Defense to develop a plan for protecting key theater ballistic missile defense assets from attack, including both active and passive defenses.** Many assets within the ballistic missile defense system lack adequate force protection from both kinetic and non-kinetic attack, such as cyberattack and electronic warfare. Critical ground-based nodes, such as the TPY-2 radar in Turkey, the Aegis Ashore site in Romania, and Patriot and Terminal High Altitude Area Defense (THAAD) batteries around the globe present themselves as easy targets for U.S. adversaries to engage during early conflict.[84] The Secretary of Defense should be required to develop a plan and provide it to Congress for protecting these theater ballistic missile assets including: (1) requirements needed to defend sites from aerial attacks; (2) methods of improving integration with existing air defense; and (3) development of passive defenses to increase survivability, such as hardening and deception, and enhance resilience of missile defense elements.

**Allies.** A cornerstone of American national security is the United States' network of allies. It is also one of the major advantages that the United States has over its great power competitors. This network is extensive and requires consistent investment and proper communication. This section's recommendations are focused on the U.S. posture toward allies and alliances.

**Recommendation 35: Congress should support the seamless integration of partner nations within 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 United States defense industrial base with the NTIB's partners.[85] The 2021 NDAA should support reforms that will make it easier for the U.S. to export defense technologies to its closest allies, such as the United Kingdom and Australia. These reforms should include allowing all defense-related exports to be licensed to 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.

**Recommendation 36: Congress should move enduring activities from the European Deterrence Initiative to the base budget.** The Obama Administration created the European Deterrence Initiative (EDI) in 2014 (then named the European Reassurance Initiative) as an immediately visible mechanism for resisting Russian aggression. The EDI remains critical to funding the bolstered U.S. rotational presence in Europe; prepositioning of equipment, exercises, and training with allies; building partnership capacity; and improving infrastructure in the European theater. Nonetheless, despite its value, the EDI, due to its funding through the OCO account, sends a mixed message that all European missions can be funded through the EDI, and that the missions are temporary. For military planning and geopolitical signaling, the United States would be better served if EDI funding were merged with the DOD base budget.[86]

**Recommendation 37: Congress should refuse to back further European Union defense integration.** Decades of tacit support for defense integration of EU militaries have resulted in little, if any, additional European defense capability. Rather, these efforts have given false credence to policymakers on both sides of the Atlantic who believe that the U.S. can and should disengage from European security. The establishment of an

independent EU army will undermine transatlantic security, and will decouple the United States from the legitimate interests it retains in a peaceful and secure European continent.[87] As such, Congress should discontinue its reflexive support for an EU army.[88]

A robust U.S.-led North Atlantic Treaty Organization (NATO) alliance remains the only guarantor of transatlantic security. The U.S. should continue to focus on advancing a "NATO first" agenda, one that ensures American engagement and influence in European 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.

**Recommendation 38: Congress should remain open to stationing additional permanent forces in Europe.** U.S. basing structures in Europe harken back to a time when Denmark, West Germany, and Greece represented the front lines of freedom. The security situation in Europe has changed, and the U.S. should account for this shift by establishing a permanent military presence in allied nations further east, including the Baltic states and Poland. A robust, permanent presence displays the U.S.'s long-term resolve to live up to its NATO treaty commitments. Whether through the deployment of multinational battalions to the Baltic states and Poland as part of NATO's Enhanced Forward Presence, or through the U.S. deploying an additional 1,000 troops rotationally to Poland, the U.S. and its NATO allies have taken important steps to bolster security on NATO's eastern flank.

While these are positive steps in the right direction, the U.S. and NATO need to show an enduring commitment to the region by permanently stationing armed forces in the Baltic states and Poland. In addition to providing greater deterrence value, permanently stationed forces in Europe are better prepared, better able to exercise, build greater interoperability with allies, and are more cost-effective. In addition, permanently stationed forces may be better for morale.[89]

**Recommendation 39: Congress should continue to strengthen Georgia's readiness and defense capabilities.** The United States and Georgia have one of the strongest bilateral defense relationships in the world. At the time of Russia's invasion of Georgia in 2008, Georgia's troop numbers were just second to those of the United States in Iraq. Georgia also has suffered the largest per capita loss in Afghanistan of any nation.[90] Today, Georgia keeps 870 troops stationed in Afghanistan. This makes it the largest non-NATO troop contributor to the NATO Resolute Support Mission.[91]

Since the 2008 invasion, the U.S. has provided Georgia with more than $750 million in military assistance.[92] In addition, the U.S. launched a three-year bilateral Georgia Defense Readiness Program (GDRP) in 2017, and U.S. Army advisors began advising Georgian Armed Forces personnel in 2018.[93] The United States should continue strengthening Georgia's readiness and defense capabilities, selling arms to Georgia in support against Russian aggression, offering military assistance, and improving Georgia's interoperability with NATO.[94]

**Recommendation 40: Congress needs to support the freedom of navigation in international waters.** Over the past three years, the U.S. has conducted at least 19 freedom of navigation operations in the South China Sea. Along with its usual transiting and schedule of exercises in the area, this is an essential element of U.S. diplomacy.[95] Freedom of navigation operations demonstrates very explicitly and constructively that the U.S. will continue to sail, fly, and operate wherever international law allows. The U.S. should also seek to make common cause with allies, such as the Philippines, and partners, such as Indonesia, Malaysia, Taiwan, Thailand, and Vietnam, wherever it can. The U.S. is helping all these countries to develop the technological wherewithal to monitor their waters, share information, and cooperate with security partners.

It is also important to carry out this type of work in the Arctic. Presence and experience operating in the Arctic is an important part of maintaining capability and influence in the region. The Navy should increase freedom of navigation operations, deployments, and exercises in Arctic waters to improve its capability to operate in the harsh conditions, as well as reinforcing freedom of the seas. Congress should preserve and fully fund this important work carried out by the Navy.

**Recommendation 41: The Department of Defense should retain the current force level of 28,500 U.S. troops in South Korea until a demonstrable reduction of the North Korean nuclear, missile, and conventional force threat materializes.** The presence of U.S. forces in South Korea and their unique integrated structure with South Korean counterparts in Combined Forces Command has deterred North Korean aggression for decades. The U.S. presence has provided the shield behind which South Korea recovered from the devastation of the Korean War and become a vibrant and prosperous democracy, and a critical U.S. economic and diplomatic partner.

North Korea has continued its unabated quest for nuclear, biological, and chemical weapons, as well as missile capabilities, while retaining a million-man conventional military. Despite repeated U.S., South Korean,

and Japanese attempts at diplomacy, the North Korean threat has not diminished.[96] The U.S. should not reduce its commitment to a critical ally, nor its force level, until there has been a significant reduction in the threat to South Korea, Japan, and U.S. forces and citizens in those countries.[97]

Drawing down U.S. forces before reducing the North Korean nuclear, missile, and conventional threats would be a sign of weakness and would risk destabilizing the region and emboldening Pyongyang to take more provocative actions. It would also play into Beijing's desire to reduce U.S. influence in the region.

**International Posture.** The NDAA determines much of how the United States interacts with the world, by outlining reporting requirements, by determining the shape of the Armed forces, and a myriad of other provisions. Congress should take advantage of this opportunity to help signal to the world the values that underline American foreign policy. After all, a policy that has executive and legislative support is more likely to endure, thus the world will take it more seriously.

**Recommendation 42: Congress should direct the Defense Intelligence Agency (DIA) to produce a classified military-power report with an unclassified portion on the conventional and unconventional military forces of the Democratic People's Republic of Korea (DPRK) within 180 days.** The DPRK presents one of the greatest threats to U.S. forces, the American homeland, and peace and stability on the Korean Peninsula and in the Asia–Pacific region through its conventional and unconventional forces.[98] The DIA report should include an assessment of North Korea's national and security strategies, policies, and intentions and the current and emerging defense capabilities that support it, including outside assistance to its defense programs.[99] Both versions of the report should provide judgments on the progress and enlargement of the DPRK's missile and nuclear weapons programs over the preceding year as well as the state of its chemical and biological weapons programs.

**Recommendation 43: Congress should amend the Arms Export Control Act to make India a "major defense partner."** In 2016, the Obama Administration designated India as a "major defense partner," a classification enshrined into law in the 2017 NDAA.[100] The move signaled to the U.S. government that India should receive preferential treatment in defense cooperation and arms sales. The designation has been internalized by the Pentagon, and by the Department of Commerce, which in 2018 moved India to Strategic Trade Authorization-1 (STA-1) status, easing the regulatory burden for arms exports to India.

The 2017 NDAA required the Secretaries of Defense and State to "jointly take such actions as may be necessary to recognize India's status as a major defense partner."[101] To fulfill that mandate, however, Congress must act to enshrine India's privileged status within the U.S. Department of State, which has considerable authority over the arms export regulations. Specifically, the U.S. Congress must revise the Arms Export Control Act to include India among the group of NATO alliance members and key non-NATO partners (Australia, Israel, Japan, New Zealand, and South Korea) that face lower regulatory hurdles to U.S. arms exports, including easing congressional notification requirements. The 2021 NDAA should add "India" and "the government of India" to the 16 instances where the group of countries receiving preferential treatment is listed (including in sections 2753, 2761, 2776, and 2796).

**Recommendation 44: Congress should direct the Pentagon to provide a comprehensive assessment of U.S. capabilities to protect the U.S. and its allies from the growing Iranian ballistic missile, cruise missile, and unmanned combat aerial vehicle (UCAV) threat within 180 days.** The Middle East has experienced attacks by ballistic missiles, cruise missiles, and armed drones perpetrated by Iran, through its Islamic Revolutionary Guard Corps and its proxies, the Houthis of Yemen, and possibly Iraqi pro-Iran paramilitary forces. These attacks have included Iranian and proxy strikes on U.S. forces in Iraq, on oil and other critical infrastructure in Saudi Arabia, and on violent extremist groups in Syria, as well as on targets in Yemen and in the Arabian Sea. The Pentagon report should include a description and assessment of not only the scope of the threat that U.S. forces face from Iranian missiles and drones, but also the state of the U.S. military capability to prevent them, including soft-kill and hard-kill options currently in place or under development.[102]

**Recommendation 45: Congress should refrain from cutting arms sales to Saudi Arabia and the United Arab Emirates (UAE) for their involvement in Yemen's civil war.** In addition to rebelling against the Yemeni government, the Houthis have attacked military bases, civilian airports, and oil infrastructure in Saudi Arabia, as well as Saudi and UAE naval forces interdicting Iranian arms transfers. Any peace agreement to end the war should include guarantees that will permanently end these threats, as well as to end Iranian arms transfers that violate U.N. Security Council resolutions. The U.S. Congress should also refrain from cutting arms sales to Saudi Arabia, which would weaken the anti-Houthi coalition and reduce the chances of reaching an acceptable peace agreement.[103]

**Recommendation 46: Congress should support the Administration's maximum-pressure sanctions campaign against Iran.** Nuclear programs, especially nuclear weapons programs, are expensive. As such, Washington should seek to prevent the flow of revenue into Tehran's coffers that might be used for this, or another nefarious, purpose. The Administration's maximum-pressure campaign on Iran has successfully constrained the Iranian economy and Iranian defense spending. Maximum pressure should continue until Iran agrees to negotiate a more restrictive nuclear agreement and changes its behavior, ranging from its support for terrorism to aggressive regional interventions, from intimidation through its armed drone, ballistic missile, and cruise missile attacks to manifest human rights violations.[104]

**Recommendation 47: Congress should hold the Burmese military accountable for its crimes against the Rohingya.** After August 2017—when the Burmese military burned Rohingya villages, which resulted in the killing of more than 6,000 individuals and displacement of more than 700,000 from Burma—there can be no question that the Burmese military committed severe crimes against Rohingya Muslims.[105] These activities mirror similar patterns of behavior carried out by the military against other religious minorities, including Christians in Shan and Kachin states.[106] Given the severity of these crimes—which appear to include genocide, crimes against humanity, and, in Kachin and Shan states, war crimes—the U.S. military should not engage in training, assistance, military financing, sharing of best practices, sharing of military technology, personnel exchanges, or joint operations with the Burmese military, including the navy, and should impose a complete ban on all licenses for the export of U.S. weapons, military equipment, or any other security items.[107]

Congress should make clear that these privileges will not be restored unless (1) the government of Burma and its military cooperate with international efforts to investigate and hold personnel and leaders accountable for atrocities committed in Rakhine and other areas, and (2) the military consents to constitutional reform and allows amendments to the country's constitution ending the military's role in civilian government.

Congress and the executive branch should take action against individuals in the Burmese military and entities owned by it, including its expansive military-owned conglomerates and some subsidiary enterprises, especially those directly involved in carrying out or facilitating egregious human rights violations. Congress should consider mandating new sanctions that complement actions by the executive branch—including the individual sanctioning of Senior-General Min Aung Hlaing and other Burmese officials, and the designations of the 33rd and 99th Light Infantry Divisions under Global

Magnitsky in 2019—specifically to target the Burmese military's enterprises, including the Myanmar Economic Corporation and Myanmar Economic Holdings Limited, both of which provide an unknown percentage of their revenue directly to the Burmese military without civilian oversight.

**Recommendation 48: Congress should support the move toward development of a U.S. port in the Arctic.** The Department of Defense should identify possible locations for a strategic port in the Arctic and conduct an analysis of the utility of such a port. The remote and harsh conditions of the Arctic region make an appealing testing ground for unmanned systems, particularly for providing additional situational awareness, intelligence, surveillance, and reconnaissance. As waterways and resources become more available in the coming years, a strategic port could assist the U.S. in projecting naval power in the region.

**Recommendation 49: Congress should oppose treaties that harm U.S. national security.** Congress should push the Administration to reject the Convention on the Prohibition of the Use, Stockpiling, Production and Transfer of Anti-Personnel Mines and on their Destruction (known as the Ottawa Convention) and the Convention on Cluster Munitions (CMC). The Ottawa Convention and the CMC could both have significant harmful effects on U.S. national security. The Senate has not provided its advice and consent to either of these treaties, they have not been transmitted to the Senate, and neither of them is in the U.S. national interest.

The U.S. has not ratified the Ottawa Convention, nor has it 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 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. On January 31, 2020, the Trump Administration canceled the Obama Administration's policy and authorized Combatant Commanders in all theaters to employ advanced, non-persistent anti-personnel landmines in exceptional circumstances.

**Recommendation 50: The Department of Defense should renew the U.S. landmine stockpile.** Congress should require the DOD to assess the size and reliability of the existing U.S. stockpile of anti-personnel landmines. Congress should ban funding for the destruction of this stockpile, except if required for storage safety reasons, until the DOD certifies that the replacement of these anti-personnel landmines by new munitions will not endanger U.S. or allied forces, or pose any operational challenges.

Finally, Congress should require the DOD to develop, produce, and acquire advanced, non-persistent anti-personnel landmines in sufficient numbers to make the new U.S. policy effective in practice.

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."[109] But in May 2017, Jim Shields, the Army's Program Executive Officer (PEO) for Ammunition, stated that the Obama Administration deadline to stop using cluster munitions by January 2019 created "capability gaps that we are really concerned about."[110] Mr. Shields also noted that the U.S. had "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."[111]

In November 2017, the Trump Administration announced that the U.S. "will retain cluster munitions currently in active inventories until the capabilities they provide are replaced with enhanced and more reliable munitions."[112] In late 2018, it was reported that the U.S. planned to buy Swedish-made Bonus 115-millimeter artillery projectiles, and was reviewing a similar projectile, the SMArt 155, a German-made munition. Both projectiles use sub-munitions to attack enemy vehicles. The U.S. Army is also testing the Israeli-made M999, an antipersonnel cluster weapon, while deploying the Guided Multiple Launch Rocket System Alternative Warhead, which replaces the explosive sub-munitions in conventional cluster munitions with approximately 160,000 preformed tungsten fragments.

None of these new weapons systems is a cluster munition as defined by the CMC, but that has not stopped activists from objecting to the use of these projectiles—which the U.S. needs to meet the threat posed by North Korea.[113]

**Recommendation 51: Congress should ban the destruction of cluster munitions.** Congress should support the November 2017 policy by prohibiting the destruction of U.S. cluster munitions stockpiles, except if required for storage safety reasons, until the DOD completes a comprehensive study on these munitions and until 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 Textron's Sensor Fuzed Weapon; and assess the current state of research, production, and deployment of operational alternatives to conventional cluster munitions.

**Recommendation 52: Direct the Administration to conduct a comprehensive review of the U.S. Open Skies Treaty (OST) program and report its findings to Congress within 180 days.** The Administration

has arguably yet to make an overwhelming public case for exiting the OST, leaving a large number of considerations and unanswered questions among concerned parties, including U.S. allies and partners. As such, the Administration should conduct a wide-ranging review of the costs and benefits, and strengths and weaknesses, of the OST program, from the existing airframe to the sensors to the value of the information collected, and report its findings to the appropriate congressional committees for review.[114]

The comprehensive congressional review should also include the development of metrics of success for the OST program and possible ways to maximize the efficiency and effectiveness of OST missions as well as a counterintelligence and vulnerability assessment of the impact of Russian OST flights over the United States to national and homeland security.

**Internal DOD Systems.** Reforming how the Department of Defense operates is one of the pillars of the National Defense Strategy. Additionally with the current efforts to generate savings from zero-based budgeting assessments through night courts,[115] the DOD needs to take every opportunity to improve its internal operations.

**Recommendation 53: Congress should require a clear DOD plan to achieve a DOD Joint Command and Control (JC2) capability.** Most of the services' operational concepts, as well as the current Joint Operational Concepts, call for greater joint interdependence and an unprecedented level of situational awareness. Despite this identified need, there is no clearly identified program of record to pull all this together. The Air Force is promoting its Advanced Battle Management System (ABMS) as the way to achieve joint command and control, and is working with the Army on ABMS.[116] The Army discusses Multi-Domain Command and Control as a solution for this type of integration but acknowledges it is not a system, but rather a concept.[117] The Navy's plan is even less clear. And, there is little or no promotion of these capabilities at the Office of the Secretary of Defense level. If the DOD is to succeed in achieving a joint command-and-control capability, better and stronger central direction is required. Congress should investigate the military services' combined efforts, as well as the DOD's centralized effort, and push for actual integration.

**Recommendation 54: Congress should support the rollout and full implementation of the Cybersecurity Maturity Model Certification (CMMC), and work with small businesses that would be affected to ensure that it does not harm the defense industrial base (DIB).** The cyber threat to the DIB is a significant threat to U.S. national security, as the loss of intellectual property has the potential to further weaken America's military edge, and to compromise sensitive systems and provide adversaries

with intelligence collection opportunities. Software attacks at every phase of the defense supply chain are increasing, with malware corruption possible at every stage of the production process.[118] Companies with lax security procedures often make prime targets for adversaries, and a vulnerability can be built into the system at the earliest stages of development. The DOD rolled out the CMMC in January 2020 to address this threat.[119] The CCMC is a set of cybersecurity guidelines with a series of levels, depending on the sensitivity of the projects. The levels range from basic cyber hygiene to sophisticated cybersecurity software and procedures, able to defend businesses and cyber systems against the most advanced hackers.

However, there is concern that it will place a large financial burden on smaller contractors.[120] According to the Pentagon, "The goal is for CMMC to be cost-effective and affordable for small businesses to implement at the lower CMMC levels."[121] This will be a balancing act between security priorities and the reality of small contractors with tight profit margins. Improving cybersecurity in the supply chain is a priority, given the scope and determination of America's adversaries in the cyber domain, as well as the potential risk of compromised systems. This threat cannot be ignored. The CMMC should be fully implemented by the DOD and supported by Congress.

**Recommendation 55: Congress should continue to invest in U.S. Cyber Command to increase the readiness and capability of its Cyber Mission Forces.** The Cyber Mission Forces reached full operating capacity for its 133 teams in May 2018.[122] These teams conduct the cyber operations and are tasked with both offensive and defensive operations. General Paul Nakasone, Commander of Cyber Command and Director of the National Security Agency, testified that efforts have shifted from building the force to enhancing its training and readiness.[123]

The U.S. Government Accountability Office (GAO) identified issues with the training of the cyber forces across the services, and found that some trained units needed additional training, as well as finding a lack of consistent training guidelines across the services in 2019.[124] Personnel competency is a critical factor in the cyber domain, and Congress should ensure that there are enough funds to train an elite cyber force, capable of meeting the growing demands of the cyber domain.

**Recommendation 56: Congress should expand Special Operations Forces (SOF) authorities to carry out offensive cyber operations.** Currently, only Special Mission Units regularly receive national-level support from the U.S. Intelligence Community for offensive cyber operations, while theater SOF are routinely de-prioritized for this support and are explicitly prohibited from conducting offensive cyber operations.

As the battlefield continues to digitize, however, this restriction unduly constrains the ability of SOF to accomplish their mission, while simultaneously forcing them to accept elevated operational risk. Congress should review these authorities. Specifically, the 2021 NDAA should task the DOD with reviewing and with providing recommendations on what, if any, changes should be made to relevant sections of Title 10 and to any other relevant statute, authority, or policy.

**Recommendation 57: The Defense Department should expand acceptable professional qualifications for its cyber workforce.** Cyber talent in the United States is in high demand and in short supply. As the DOD seeks to fill its critical cyber workforce, it should accept non-traditional professional credentialing and schooling, thereby significantly expanding the talent pools from which it draws personnel. Specifically, cyber-related credentialing from so-called technology boot camps and massive online open courses (MOOCs) should be allowed as an alternative to traditional education requirements, provided that candidates meet the necessary technical standards. Further, the DOD should also allow military personnel to apply GI Bill and related benefits to these cyber-related alternatives.

**Recommendation 58: Congress should require an assessment on the U.S. quantum security posture.** Quantum science could open new possibilities in computer processing and storage, data collection and analysis, and information and communications security. But the United States could also face a series of rapid—and possibly decisive—vulnerabilities to national security if quantum advantage is pre-emptively realized by one of its global competitors.[125]

Congress should task the Secretary of Defense and the Director of National Intelligence with an annual joint assessment of the nation's quantum security posture and capabilities as well as those of its international challengers and enemies. These reports should also include assessments of the U.S. ability to collect intelligence on and to assess foreign adversarial quantum programs. Similarly, the House and Senate Armed Services Committees and Select Committees on Intelligence should hold annual hearings on the subject of quantum science and national security.

**Recommendation 59: Congress should pursue smart cooperation in quantum computing.** Congress should task the Director of National Intelligence, the Secretary of Defense, the Secretary of Commerce, and any other relevant department or agency head with developing a series of concrete policy recommendations for how the United States can encourage and participate in the global sharing of quantum research and development while simultaneously advancing and protecting U.S. national

security. These recommendations should include steps that can be taken to mitigate the counterintelligence threats posed by overt and covert foreign infiltration and acquisition of American quantum technology companies and patents.

**Recommendation 60: Congress should repeal the 1991 and the 2002 Authorizations for the Use of Military Force (AUMF) Against Iraq Resolutions.** Congress has, through inaction, ceded its war powers over the decades to the President.[126] Congress must return to its constitutional and regular practice of exercising its war powers. There is no better way for Congress to reclaim its war powers than to repeal the 1991[127] and 2002[128] AUMFs. These two AUMFs remain in force even though their purpose has been accomplished. They are, essentially, vestigial war authorizations. Repeal would not affect the 2001 AUMF,[129] the primary domestic statutory authority for the war against al-Qaeda, the Taliban, ISIS, and associated forces.

Debating and repealing those war authorizations gets the Congress back in the business of exercising its Article I muscles. Debating the repeal of the two Iraq war authorizations would allow Congress to re-engage its constitutional muscles on a topic about which Members should be flexing their muscles on a regular basis, and which is not a death sentence to their political futures. It would require the Administration either to defend the use of the two Iraq AUMFs or to agree that their usefulness has expired. Finally, such a debate would be an act of congressional hygiene. Clearing out the legislative closet of war authorizations that have long since fulfilled their purpose would be a first step in restoring the balance of power between Congress and the President with respect to war-making power.[130]

**Recommendation 61: Congress should maintain the Administration's carefully nuanced policy on military service by transgender individuals.** In 2018, the Administration announced a new policy regarding military service by transgender individuals. The policy allows service by transgender individuals who do not have a diagnosis of gender dysphoria (a medical condition marked by a distinct incongruence between one's assigned gender and one's expressed gender causing the individual significant distress or problems functioning).

This new policy took a much more flexible approach than decades of prior policy, which categorically prohibited military service by transgender individuals. After considerable study however, the DOD found extensive evidence to support the conclusion that transgender individuals diagnosed with gender dysphoria are plagued by "high rates of mental health conditions such as anxiety, depression, and substance abuse disorders."[131]

Rates of suicide attempts and severe anxiety among this group are approximately *10 times* the rate for individuals not diagnosed with gender dysphoria. Allowing individuals with such a medical condition to join the military would be inconsistent with long-standing DOD policy to prohibit service by individuals with pre-existing medical conditions that could either put them at increased risk or jeopardize the readiness of their military units.

Opponents of the 2018 policy are attempting to paint the policy as discriminatory and biased, because, unlike the Obama Administration's policy, it does not allow transgender individuals who have been diagnosed with gender dysphoria to serve. The 2018 policy is neither discriminatory nor biased. It is a nuanced, science-based, and consistent with most prior policy, which prohibits service by individuals suffering from pre-existing medical conditions requiring special treatment or consideration. At the same time, the policy allows service by transgender individuals not suffering from gender dysphoria, thus allowing the military to recruit from the broadest possible population within the United States. Congress should therefore not alter the DOD's current policy.

**Recommendation 62: Congress should establish education savings accounts (ESAs) for children from military families.** Military families' dissatisfaction with education options is a major impediment to retaining a strong military force. To the frustration of many military parents, most military children are required to enroll in whichever public school is closest to the military base, regardless of whether that school is a good fit. More than one-third of families responding to a *Military Times* survey reported that "dissatisfaction with their child's education was a significant factor in their decision to remain in or leave military service."[132]

Congress could also consider piloting a military ESA program on military bases in states where the DOD does not already operate schools. Currently, the DOD operates department-affiliated schools on just 15 of more than 200 military bases in the contiguous United States.[133]

Giving all families who serve school choice would ensure that their children do not face mandatory assignment to the nearest district school. Providing military parents with ESAs would allow them to find education options that are the right fit for their children, wherever their next assignment takes them. Indeed, ESAs have garnered support from 75 percent of active-duty military families.[134] ESAs can improve education options for military children since they meet the unique needs of military families. Military ESAs give parents the ability to make the best education choices for their children.[135]

**Recommendation 63: Congress should authorize full pay raises as determined by the Employment Cost Index to assist in recruiting from a shrinking candidate pool.** Demographic trends and lower unemployment rates mean that the DOD will have a more difficult time recruiting for the Armed Forces. Adding to this problem is a growing number of individuals between the ages of 17 and 24 who are physically or mentally ineligible for military service.[136] 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.[137] Full pay raises help to alleviate the recruiting problems.

**Recommendation 64: Congress should reform the Basic Allowance for Housing (BAH).** Congress needs to reform the BAH rules. The BAH needs to be restored to its proper role of an allowance—as opposed to a source of income—by requiring married military couples to share a single allowance, and by requiring all service members to document their housing expenditures in order to receive the allowance. These changes would reduce costs and are completely appropriate. Congress should phase in a more accurate housing allowance, since it is solely designed to help service members pay for accommodation. This allowance is not military compensation. Service members are not entitled to, nor should they have any expectation, that any BAH money they receive in excess of what they pay for housing can be retained as extra compensation.

**Recommendation 65: Congress should reduce commissary subsidies and combine the commissary and exchanges systems into one.** 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. On the other hand, the military post and base 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 2018 NDAA, Congress had a reporting requirement that would provide a cost-benefit analysis and aim to reduce 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 when the GAO has found that the DOD does not properly measure the recruiting and retention benefits created by the systems.[138]

**Recommendation 66: Congress should authorize a new round of Base Realignment and Closure (BRAC).** The DOD has assessed that

it has more than 19 percent excess infrastructure that would be reduced through a BRAC.[139] Further, Congress has mandated that the DOD study its excess capacity.[140] (That report was due with the 2021 budget request.) [141]The report should serve as the starting point for a new round of BRAC, not as an excuse to delay the process even further. The excess capacity burdens taxpayers and the DOD 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.[142]

A new round of BRAC should set a target reduction goal to reduce the infrastructure by a percentage that Congress should determine. There are multiple ways in which Congress can change how a BRAC round develops to quash questions and doubts that lawmakers might have.[143] From establishing different criteria for installation assessments to dedicating full-time staff to BRAC and its studies, Congress and the DOD can work together to mitigate all the questions that have led to the rejection of a new round of BRAC. Furthermore, a new round of BRAC would serve to assess how the current infrastructure is adapted to the goals of the NDS.[144]

**Recommendation 67: Congress should lift the moratorium on public–private competition.** Under pressure from federal employee unions since 2012, Congress has prohibited competition between public and private organizations for the more cost-effective services for the U.S. government. This moratorium even extends to public–public competition, which leads to situations, for instance, where the municipality in which a base is located may not offer its services to the base. DOD-specific competition remains prohibited per section 325 of the 2010 NDAA.[145]

Yet even critics will admit that "competition is the greatest single driver of performance and cost improvement."[146] 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.[147] The common criticism levied against such competition is that the process has not been updated and has yielded problems for both government and the private sector.[148] This is more reason for Congress to revisit Circular A-76 and make the necessary updates to allow implementation.[149]

**Recommendation 68: Congress should exempt the DOD from the Davis–Bacon Act.** 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. The increased cost of construction is significant for the DOD, which requested $10.5 billion for construction projects in FY 2019.[150] 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.[151]

**Recommendation 69: Congress should reform Section 232 of the Trade Expansion Act of 1962 and make the Department of Defense the lead agency.** Section 232 of the Trade Expansion Act of 1962 is an antiquated trade tool that gives the executive branch virtually unchecked authority to impose or increase tariffs on U.S. imports if those imports are thought to threaten U.S. national security.[152] Investigations under Section 232 are conducted by the Department of Commerce in consultation with the DOD. However, the DOD does not have much power to affect the outcome of the Commerce Department's investigation. This lack of power became a problem in 2018 when the Commerce Department determined that steel and aluminum imports threatened to impair U.S. national security, despite a memorandum from the Secretary of Defense stating the opposite.[153] Reform is needed to prevent this from occurring again.[154]

When making decisions on what is and is not a threat to U.S. national security, the DOD should be the lead agency, and should be tasked first with identifying the quantity of a product needed to meet essential national defense requirements. The DOD should then be tasked with determining whether DOD programs have the ability to acquire the amount of that product, or a suitable substitute, to meet those requirements. These steps will ensure that the DOD takes a clear look at its ability to acquire the products that it needs and prevent other agencies from misusing the law to include overtly vague issues, such as food security, job security, and economic security.

**Recommendation 70: Congress should reject new "Buy American" requirements.** "Buy American" is a great bumper sticker and political slogan, but it is bad economic and security policy.[155] Buy American requirements can artificially increase the costs of goods and services procured by the DOD, increasing the tax burden for Americans and reducing the DOD's overall purchasing power and ability to procure goods that are essential for national defense. Not only are Buy American laws unnecessary for most commercial goods, but ensuring that the DOD complies with these regulations can be costly. Budgeting policies should allow the DOD to readily source goods, especially items that are non-essential for military defense and are widely market-accessible. While it is the DOD's mission to keep America secure, it is not the mission of the DOD to execute industrial policies. Buy American advocates argue that DOD resources should subsidize U.S. industries and employment regardless of the price. It is also an attempt to shield local industries from competition.

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."[156] The Defense Logistics Agency has issued waivers for a number of goods, such as zipper components, gloves, fasteners, or sandbags that are not 100 percent domestically sourced material.[157] Still, the DOD continues to go through multiyear review processes to find domestic sources for footwear and other items that are widely available internationally.

**Recommendation 71: Congress should increase the use of performance-based logistics (PBL).** Congress should incentivize and enable the broader use of PBL throughout the acquisition process. The DOD 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.[158] 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 a contract being associated with the delivery of a platform, it is associated with the proper functioning of said platform.[159] 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.[160]

**Recommendation 72: Congress should create a pilot 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 Operations and Maintenance funding that remains unused vanishes. This creates the fear among DOD agencies that unused funds could mean less funding the following year. This creates 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. September is especially busy, with spending twice as high as during the other months of the year.[161]

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.[162] 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 DOD agencies enabling them to roll over 5 percent of their budget could go a long way toward 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 73: Congress should remove non-defense research funding from 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.[163] 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.

**Recommendation 74: Congress should reform its Defense Department reporting requirements.** Congress should establish sunset clauses for all reporting requirements**.** While congressionally mandated reports can be valuable, many of the current reports that the DOD sends to Congress have lost meaning or relevance. Congress should require the DOD to holistically list and outline every report that the DOD is currently required to produce, with a DOD recommendation of whether it should continue. Congress should deliberately terminate any reports that it has determined no longer add value. Congress should further include a sunset date for every new report that it requests.

Many congressionally mandated reports are dispersed through Capitol Hill offices without a contemporary solution for its distribution, access, and storage. Some offices digitize the reports, some offices keep physical copies in file cabinets. There is no centralized method of access for all congressional staff. Congress should create a centralized repository of these reports at the Library of Congress that is accessible to all congressional staffers. Ideally, there should be a public version, a version that is solely accessible to congressional staffers, and a classified version, all three of which should be at the Library of Congress.

Finally, congressionally mandated reports are often late and lack a point of contact for follow-up questions. Congress should require the Pentagon to provide comprehensive situational awareness of all reports, their status, and a point of contact for follow-up questions.

## Conclusion

The defense authorization and appropriations bill will come at a time in which the Department of Defense is moving ahead with the implementation

of the National Defense Strategy and has started to make consequential decisions that will shape the armed forces of the future. These decisions should cause a reaction in Congress when national defense needs to bump up against parochial interests. It is important for Congress to understand the trade-offs that the Department of Defense is making in the current budget, in order to build the necessary support for its budget request. Congress and the executive branch need to work together to prepare the country for the era of great power competition.

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