



Testimony of Mandy Smithberger, Director of the Center for Defense Information
Project On Government Oversight
before the House Armed Services Committee
on “Non-Governmental Views on the Fiscal Year 2022 Defense Budget”
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Thank you Chairman Smith, Ranking Member Rogers, and members of the committee for inviting me to testify before you today. I’m Mandy Smithberger, the director of the Center for Defense Information at the Project On Government Oversight. POGO is a nonpartisan independent watchdog that investigates and exposes waste, corruption, abuse of power, and when the government fails to serve the public or silences those who report wrongdoing. We champion reforms to achieve a more effective, ethical, and accountable federal government that safeguards constitutional principles. Forty years ago, POGO was founded by Pentagon insiders who were concerned about the department’s procurement of ineffective and overpriced weapons. Throughout our history we have promoted wise spending and have sought improvements to strengthen our military’s effectiveness.

I want to thank the committee for holding this hearing seeking outside views on this year’s budget proposal. Defense Department spending continues to rise at an unsustainable rate, and in too many instances we are paying too much money for too little capability. Significant cuts to the department’s budget are necessary to create the incentives and pressure for reforms that address how the department spends its money and how it fails to set priorities.

Regardless of the budget level, the department needs broad reforms. Buying unproven weapon systems in quantity before testing is complete, awarding contracts to companies with histories of waste and misconduct, and giving disproportionate funding to an agency that is years away from being able to pass an audit wastes taxpayer dollars and reduces overall readiness.¹ The only way there will ever be reform is if there is accountability for failed programs and wasted funds. That accountability must include real budget consequences. Throwing even more money at the department will only make the problems worse.

The Biden administration’s budget proposes cutting a number of “legacy programs” to fund modernization. It’s important for the department to make tradeoffs and set priorities, but we worry that in too many instances the department proposes getting rid of proven—and usually cheaper—systems in favor of immature technology and more costly systems. It’s nearly always the case that the new program is over cost and behind schedule. When Congress acquiesces to these requests from the department, they are often left in the unenviable position of having to continue to support a program that would otherwise be canceled because we divested from a capability that is still necessary for our national security.

¹ Jared Serbu, “DoD targets 2028 for first clean financial statement audit,” *Federal News Network*, May 3, 2021, <https://federalnewsnetwork.com/defense-main/2021/05/dod-targets-2028-for-first-clean-financial-statement-audit/>.

The cost of modernization programs when they fail or are delayed can be substantial. Over the course of a decade, the department ultimately had to cancel programs we'd already sunk more than \$46 billion into.² Many of those canceled programs had promised leaps in technology that in the end could not be affordably achieved. (Notably, programs that were delivered on time during that same time period were largely derivatives of previous, proven systems.³)

And while the financial costs of failed modernization programs take a toll, they're not the only consequence. Delays can also contribute to preventable accidents, loss of life, and eroding readiness. For example, MH-53 helicopters became one of the deadliest types of aircraft in the United States inventory after multiple programs intended to replace its mine countermeasure program failed. Without a replacement system, those helicopters continued to fly for years beyond their anticipated service life, and resources that would have gone to their maintenance were prioritized for newer programs.⁴ Deferred maintenance, known design flaws, and lack of pilot training time resulted in accidents that ultimately took the lives of more than 130 servicemembers.⁵ Many legacy aircraft suffered the same problems. The National Commission on Military Aviation Safety found maintenance and safety of legacy systems across the services deteriorated as services diverted resources to new programs. That deterioration was exacerbated, they found, as delays in the new programs forced the services to extend the lives of the now-underserviced legacy systems for years.⁶ While many have blamed readiness shortfalls on insufficient funding, the commission made clear to this committee that was not the case, saying their "primary fiscal concern is not the amount of money currently allocated to military aviation, but rather the lack of predictability and reliability of the funds."⁷

This budget request shows how new systems that are too expensive to maintain or upgrade can quickly become irrelevant "legacies." Among the so-called legacy systems proposed for retirement in the budget are four littoral combat ships. We support this cut, but it's emblematic of wasteful spending that could and should have been avoided at the outset. The littoral combat ship exemplifies the waste that results from procuring immature weapon systems in quantity before testing is complete. POGO, the Congressional Research Service, and the Congressional Budget Office all warned Congress that the Navy's original acquisition strategy risked increased costs

² *Washington Post*, "When the Pentagon gets the axe," August 4, 2011, <https://live.washingtonpost.com/spending-cuts-defense-department.html>.

³ Stephen Trimble, "DOD's naughty Wall of Shame (Part 2)" *FlightGlobal*, July 19, 2011, <https://web.archive.org/web/20110801060150/https://www.flightglobal.com/blogs/the-dewline/2011/07/dods-naughty-wall-of-shame-par.html>.

⁴ Nicole Van Dorn, Zachary Stauffer, and Dan Grazier, "Who Killed Lt. Van Dorn?" Project On Government Oversight, January 7, 2019, <https://www.pogo.org/podcast/who-killed-lt-van-dorn/>.

⁵ Mark Thompson, "Déjà Chopper: Why the Marines Are Buying a Troubled Aircraft Again," Project On Government Oversight, December 12, 2018, <https://www.pogo.org/analysis/2018/12/deja-chopper-why-the-marines-are-buying-a-troubled-aircraft-again/>; "The Fallen," Who Killed Lt. Van Dorn? 2018, <https://www.vandornmovie.com/the-fallen>.

⁶ National Commission on Military Aviation Safety, *Report to the President and the Congress of the United States*, (December 1, 2020), 39. https://www.militaryaviationsafety.gov/report/NCMAS_Final_Report.pdf.

⁷ *Review of the findings of and recommendations of the National Commission on Military Aviation Safety: Hearing before the House Armed Services Subcommittee on Readiness*, 116th Cong. 3 (December 3, 2020) (testimony of Richard Healing, vice chairman of the National Commission on Military Aviation Safety). <https://garamendi.house.gov/sites/garamendi.house.gov/files/Healing%20Opening%20Statement%2011302020.pdf>.

and undelivered capabilities.⁸ And just as we forewarned, the operational impacts of approving the Navy’s acquisition strategy have been increased costs and less capability than promised.⁹ In this case, these ships have only been recently purchased—the newest being in service only since 2017—yet already they appear to be too costly to upgrade or to keep in the fleet.¹⁰

It’s not difficult to imagine a similar fate for the F-35 Joint Strike Fighter program, the most expensive program ever undertaken by the department. The F-35 was initially proposed to be “more Chevrolet than Porsche,” but low readiness rates and maintenance costs have turned what should be a workhorse into something the Air Force chief of staff has deemed to be a “Ferrari” to be used sparingly.¹¹ This is yet another example of the massive waste caused by “buying before flying.” At one point, the costs of retrofitting the aircraft already in hangars to correct problems later uncovered during testing were so high that the department contemplated leaving \$21 billion-worth of “concurrency orphan” jets without the upgrades necessary to make them fully combat capable.¹²

Continuing to prioritize modernization without accountability for performance only continues to increase costs and put readiness and effectiveness at risk, and Congress must carefully consider the wisdom of retiring what works to make way for programs that may still be years from filling the capability gap. The F-35 program is instructive on the impacts of those longer-term costs. A recent report by the Government Accountability Office found that “DOD and the services will be confronted with tens of billions of dollars in annual F-35 sustainment cost overruns that are currently projected as unaffordable.”¹³ Future production decisions must not only be tied to reducing costs but also to performance, including the director of operational test and evaluation declaring every variant is fully combat effective and fully suitable for use.¹⁴ Buying more F-35s before testing is complete exacerbates the problems already seen in the fleet and raises the costs of retrofits and design changes.

⁸ Letter from POGO Executive Director Danielle Brian to the Senate Armed Services Committee on the Navy’s proposed acquisition change, December 9, 2010, <https://www.pogo.org/letter/2010/12/pogo-letter-congress-should-require-that-navy-give-it-more-time-to-mull-littoral-combat-ship-acquisition-change/>

⁹ Mandy Smithberger and Pierre Sprey, “Overhaul of Littoral Combat Ship Program Likely to Increase Risks and Costs,” Project On Government Oversight, December 13, 2016, <https://www.pogo.org/investigation/2016/12/overhaul-of-littoral-combat-ship-program-likely-to-increase-risks-and-costs/>.

¹⁰ Mallory Shelbourne, “Navy Tries to Cut Four Littoral Combat Ships to Save \$186M in FY 22 Budget,” *USNI News*, May 28, 2021, <https://news.usni.org/2021/05/28/navy-tries-to-cut-four-littoral-combat-ships-to-save-186m-in-fy-22-budget>.

¹¹ James Dao and Laura M. Holson, “Lockheed Wins \$200 Billion Deal for Fighter Jet,” *New York Times*, October 27, 2001, <https://www.nytimes.com/2001/10/27/us/lockheed-wins-200-billion-deal-for-fighter-jet.html>; Thomas Newdick, “Air Force Boss Wants Clean-Sheet Fighter That’s Less Advanced Than F-35 to Replace F-16,” *The Drive*, February 18, 2021, <https://www.thedrive.com/the-war-zone/39316/air-force-boss-wants-clean-sheet-fighter-thats-less-advanced-than-f-35-to-replace-f-16>.

¹² Dan Grazier, “\$21 billion worth of F-35 concurrency orphans?” Project On Government Oversight, October 12, 2017, <https://www.pogo.org/analysis/2017/10/21-billion-worth-of-f-35-concurrency-orphans/>.

¹³ Government Accountability Office, *F-35 Sustainment: DOD Needs to Cut Billions in Estimated Costs to Achieve Affordability*, GAO-21-439 (July 7, 2021), 48, <https://www.gao.gov/assets/gao-21-439.pdf>.

¹⁴ Winslow Wheeler and Dan Grazier, “F-35 Changes Needed While Still in Infancy,” Project On Government Oversight, April 7, 2021, <https://www.pogo.org/analysis/2021/04/f-35-changes-needed-while-still-in-infancy/>.

As much as possible, the department and Congress must make sure we fly before we buy. While we understand the need to speed up the acquisition process, putting immature and unproven technology into production is costly and undermines readiness. As this committee knows too well, the cost overruns eat into other department priorities, including modernization, and create preventable operational risks. Getting these programs right also depends on starting programs with a process that meaningfully analyzes alternatives for new systems, leverages competition and prototyping, and enables oversight and transparency throughout the process.¹⁵

Even if the Pentagon were to acquire its new systems without delays or cost overruns—something it rarely ever does—its future and extensive spending plans have earned this decade the moniker of the “terrible twenties.”¹⁶ Increasing spending and pushing money out the door at such a rapid clip is likely to only exacerbate the waste and send the message to the department that it has a blank check to mismanage its funds. Even if Congress ultimately decides to provide the Defense Department with a higher budget, it must still do more to seek reforms and push the department to reduce costs significantly.

Opportunities for Savings

There are a number of areas ripe for cost savings without compromising military effectiveness. One of the largest is service contracting. While many people think of the Department of Defense as being in the business of buying planes, tanks, and ships, nearly 50% of what the department buys is services. Last year the department spent nearly \$204 billion on service contracts.¹⁷ POGO’s review of service contracting data found contractor employees cost nearly three times more than the average civilian employee.¹⁸ The Defense Business Board also highlighted opportunities for cost savings on service contracting in its proposal for ways the department could save \$125 billion over five years.¹⁹ The opportunity for savings on service contracting was confirmed for a third time in a subsequent review by the Pentagon’s cost estimating shop.²⁰

Tracking the size and scope of the service workforce, however, has been a challenge. The main way to track that information has been through service contractor inventories. The most recent

¹⁵ Winslow Wheeler and Tom Christie, “Refusing to Misunderstand the Defense Acquisition Problem,” Project On Government Oversight, October 7, 2014, <https://www.pogo.org/investigation/2014/10/refusing-to-misunderstand-defense-acquisition-problem/>.

¹⁶ Government Accountability Office, *Weapon Systems Annual Assessment*, GAO-21-222 (June 8, 2021), 26-29, <https://www.gao.gov/assets/gao-21-222.pdf>; Mackenzie Eaglen, American Enterprise Institute, *The 2020s Tri-Service Modernization Crunch* (March 23, 2021), 3, <https://www.aei.org/research-products/report/2020s-tri-service-modernization-crunch/>.

¹⁷ “Spending Explorer” USASpending, data for Department of Defense, service contracting and research and development contracts, FY 2020, accessed May 7, 2021, <https://www.usaspending.gov/search/?hash=9b0923e53d6f7600c5b407bdf43b728a>.

¹⁸ Scott Amey, “DoD Contractors Cost Nearly 3 Times More than DoD Civilians,” Project On Government Oversight, November 30, 2012, <https://www.pogo.org/analysis/2012/11/dod-contractors-cost-nearly-3-times-more-than-dod-civilians/>.

¹⁹ Defense Business Board, *Transforming DoD’s Core Business Processes for Revolutionary Change* (January 22, 2015), 10, https://www.defensedaily.com/wp-content/uploads/post_attachment/150404.pdf.

²⁰ Cost Assessment and Program Evaluation, Office of the Secretary of Defense, *Comparing the Cost of Civilians and Contractors: Performance of Comparable DoD Functions* (April 2017). https://admin.govexec.com/media/gbc/docs/pdfs_edit/dodcontractorcivilianpart1.pdf and https://admin.govexec.com/media/gbc/docs/pdfs_edit/dodcontractorcivilianpart2.pdf.

publicly available data clearly breaking down costs and contractor full time equivalents across the department is from fiscal year 2015.²¹

While there were some promising efforts by the Army to create systems that would help officials make more cost-effective decisions, departmentwide efforts to create similar systems received significant pushback from within the department and eventually stalled.²² Congress exacerbated the problem by reducing what the department must report through the inventories.²³

Another area in which we urge the committee to curb major drivers of endless spending is the department's wish lists. Referred to as "unfunded priorities" lists, these requests reduce budget discipline and increase wasteful spending. Many components of the Defense Department produce two budgets for Congress: one approved by the department's civilian leaders as part of the annual budget submission, and a second of additional programs that didn't make the cut. When the late Senator John McCain was chair of the Senate Armed Services Committee, he criticized this practice as a budget gimmick and a "backdoor way of getting things done."²⁴ Unfortunately this practice has only become worse over time, with Congress codifying into law the requirement for components to produce two lists.

An ideal budget process at the Department of Defense or any other federal agency would establish clear priorities for spending and program execution. By telling Department of Defense components they'll have two bites at the apple, Congress is increasing the already palpable pressure and incentives to spend without restraint. Congress should eliminate the statutory requirement for components to submit wish lists. Until that's done, however, Congress should require that the wish lists—whether submitted per statute or by request—include recommended

²¹ Office of the Assistant Secretary of Defense for Manpower & Reserve Affairs, *Defense Manpower Requirements Report* (December 2018), 133-13, https://prhome.defense.gov/Portals/52/Documents/MRA_Docs/TFM/Reports/Final%20FY18%20DMRR%2011Dec2017.pdf?ver=2018-02-03-141625-140; Incomplete data was provided to Congress in 2018. Office of the Under Secretary of Defense for Acquisition and Sustainment, *Summary Report to Congress of the Department of Defense Fiscal Year 2016 Inventory of Contracted Services* (February 2018), 1, <https://www.documentcloud.org/documents/20697443-fy-2016-inventory-of-contracted-services-for-the-department-of-defense>; The "Inventory of Services Contracts" available through the department's Defense Pricing and Contracting website are significantly less useful and transparent for oversight. https://www.acq.osd.mil/dpap/cpic/cp/inventory_of_services_contracts.html.

²² Scott Amey, "In Carter We Trust?" Project On Government Oversight, March 24, 2015, <https://www.pogo.org/analysis/2015/03/in-carter-we-trust/>; Letter from Project On Government Oversight Executive Director Danielle Brian to Defense Secretary Chuck Hagel about DOD Effort to Kill Beneficial Service Contract Inventory System, November 25, 2014, <https://www.pogo.org/letter/2014/11/pogo-highlights-dod-effort-to-kill-beneficial-service-contract-inventory-system/>.

²³ Public comment letter from Project On Government Oversight General Counsel Scott Amey about DOD proposed rule, "Defense Federal Acquisition Regulation Supplement: Data Collection and Inventory for Services Contracts (DFARS Case 2018-D063)," August 4, 2020, <https://www.pogo.org/letter/2020/08/pogo-opposes-defense-department-proposed-service-contract-inventory-rule/>; Government Accountability Office, *Service Acquisitions: DOD's Report to Congress Identifies Steps Taken to Improve Management, But Does Not Address Some Key Planning Issues*, GAO-21-267R (February 22, 2021), 3-4, <https://www.gao.gov/assets/gao-21-267r.pdf>; Government Accountability Office, *DOD Contracted Services: Long-Standing Issues Remain about Using Inventory for Management Decisions*, GAO-18-330 (March 29, 2018), 2, <https://www.gao.gov/assets/gao-18-330.pdf>.

²⁴ Marcus Weisgerber and Molly O'Toole, "The Pentagon's Weapon Wish Lists Could Disappear," *Defense One*, February 4, 2015, <https://www.defenseone.com/policy/2015/02/pentagons-weapon-wish-lists-could-disappear/104619/>.

offsets within the component's own budget to pay for the projects that did not make it into the budget request.

Finally, nuclear weapons spending is a third area in which to consider priorities and tradeoffs. This area of spending is growing at an unsustainable rate. In a single year, projected spending on nuclear weapon activities increased by 29%, or \$113 billion.²⁵ The upcoming Nuclear Posture Review is an important opportunity to consider ways to reduce these costs.²⁶ POGO also urges the committee to continue to examine whether new authorities given to the Nuclear Weapons Council in last year's National Defense Authorization Act will lead to wasteful spending.²⁷ Allowing Defense Department leaders to add their own spending priorities to other agencies' budgets, without any requirement to propose offsets to pay for the proposed spending increases, is likely to lead to the nuclear weapons spending budget going in only one direction—up.

This year's budget does include reforms we hope the committee will support, most notably eliminating the Overseas Contingency Operations (OCO) account. Over the years OCO became a slush fund for programs unrelated to our wars overseas, and harmed the department's planning and management.²⁸ The department's reliance on supplemental and off-budget spending has become so commonplace in the past 20 years that it can be easy to forget just how unusual the practice is. From the 1950s to 2001, the United States only used supplemental spending to augment the Pentagon's base budget in the initial years of a war, when the costs were unpredictable. The Congressional Budget Office found that from 1970 to 2000, "nonbase funding accounted for about 2 percent of DoD's total spending."²⁹ We urge the committee to not resurrect this off-budget account or to create new ones.

Combating Emerging National Security Challenges

The Department of Defense budget request aims to address a number of major emerging national security challenges. But what is also becoming increasingly clear is that the response to these future challenges cannot be solely or even principally led by the department. Ensuring our security for the future will require balancing resources to enable the United States to make the best use of the power of our economy, diplomacy, and capacity for innovation.

China creates a number of new challenges for the United States, both militarily and economically. It's important to keep in mind, however, that our country continues to be superior

²⁵ Kingston Reif and Mandy Smithberger, "500,000,000,000 reasons to scrutinize the US plan for nuclear weapons," *Bulletin of the Atomic Scientists*, May 21, 2021, <https://thebulletin.org/2021/05/500000000000-reasons-to-scrutinize-the-us-plan-for-nuclear-weapons/>.

²⁶ Bryan Bender, "DoD set to kick off major nuclear scrub," *Politico*, July 8, 2021, <https://www.politico.com/newsletters/morning-defense/2021/07/08/dod-set-to-kick-off-major-nuclear-scrub-796369>

²⁷ John Donnelly, "Congress moves to give Pentagon more say in Energy Department's nukes budget," *Roll Call*, December 7, 2020, <https://www.rollcall.com/2020/12/07/congress-moves-to-give-pentagon-more-say-in-energy-departments-nukes-budget/>.

²⁸ David Thornton, "Using OCO funds to bypass budget caps 'departure from historical norms,' CBO says," *Federal News Network*, March 1, 2019, <https://federalnewsnetwork.com/budget/2019/03/using-oco-funds-to-bypass-budget-caps-departure-from-historical-norms-cbo-says/>.

²⁹ Congressional Budget Office, *Overseas Contingency Operations: Trends and Issues* (March 7, 2019). <https://www.cbo.gov/publication/55012>.

in almost every traditional dimension of military strength.³⁰ Moreover, assessing our strength should not discount the training and experience of our forces.³¹ We are concerned that a strategy that overly focuses on the military, continues wasteful procurement practices, and includes unsustainable levels of nuclear weapons spending is likely to fuel a new Cold War that will not make Americans safer.

There are also significant risks hitting us domestically that do not have solely military solutions. There are two other major challenges for public health and safety I want to highlight because they will also require leadership and resourcing for agencies beyond the Department of Defense. Those tradeoffs will put pressure on the department to be much better stewards of the ample resources they already receive.

Climate change is already having a growing impact on our health and safety. From a purely budgetary perspective, the nonpartisan Congressional Budget Office predicts climate change will increase deficits “by reducing revenues and increasing mandatory spending.”³² While combating climate change should be led by other departments with expertise, the Department of Defense certainly has a role to play.³³ The costs of climate change are already being felt by the department. For example, the National Guard is repeatedly called upon to help states recover from extreme weather.³⁴ Military infrastructure is also being hit. The Air Force estimated it needed \$4.9 billion to rebuild bases hit by flooding and Hurricane Michael.³⁵ The Marine Corps estimated that Hurricane Florence resulted in \$3.6 billion in damage at Camp Lejeune, Marine Corps Air Station New River, and Marine Corps Air Station Cherry Point.³⁶ The department has over 1,700 installations worldwide that may be impacted by sea-level rise.³⁷ These costs for the department and across the government will only grow if Congress does not adequately fund efforts to preempt the impacts climate change will have on public health and safety.

Cyber security is also a pressing concern for both our national security agencies and our broader economy. The SolarWinds attack is only the latest indication that future cyber threats will focus on softer, private sector targets alongside our government institutions. Hardening these systems

³⁰ John Isaacs, “China is not the new Soviet Union,” Center for Arms Control and Non-Proliferation, April 8, 2021, <https://armscontrolcenter.org/china-is-not-the-new-soviet-union/>.

³¹ David Frum, “China is a Paper Dragon,” *The Atlantic*, May 3, 2021, <https://www.theatlantic.com/ideas/archive/2021/05/china-paper-dragon/618778/>.

³² Congressional Budget Office, *Budgetary Effects of Climate Change and of Potential Legislative Responses to It* (April 2021), <https://www.cbo.gov/publication/57175>.

³³ For more on recommendations for the Department of Defense’s role in combating climate change see: Sustainable Defense Task Force of the Center for International Policy, *Sustainable Defense: More Security, Less Spending* (June 2019), 20-24, https://67ae62e0-a930-4a42-8f98-6c406ea4d9de.filesusr.com/ugd/3ba8a1_635241b0a0894b3fb377c88e500c3620.pdf.

³⁴ Lawrence Kapp, Congressional Research Service, *Defense Primer: Defense Support of Civil Authorities*, IFI 1324 (December 8, 2020), <https://fas.org/sgp/crs/natsec/IF11324.pdf>.

³⁵ James Doubek, “Air Force needs almost \$5 billion to recover bases from hurricane, flood damage,” *NPR*, March 28, 2019, <https://www.npr.org/2019/03/28/707506544/air-force-needs-almost-5-billion-to-recover-bases-from-hurricane-flood-damage>.

³⁶ Courtney Kube and Mosheh Gains, “Camp Lejeune is still a mess 6 months after Hurricane Florence. Where’s the money for repairs?” *NBC News*, March 30, 2019, <https://www.nbcnews.com/news/military/camp-lejeune-still-mess-6-months-after-hurricane-florence-where-n986456>.

³⁷ Margaret Tucker and G. James Herrera, Congressional Research Service, *Military Installations and Sea-Level Rise*, IFI 1275 (July 26, 2019), 1, <https://crsreports.congress.gov/product/pdf/IF/IF11275>.

will be costly and redirect resources from other priorities. The Government Accountability Office has also found it will require more vigilance to ensure program contracts include the department's cyber security requirements.³⁸ The Cyberspace Solarium Commission highlighted the need for reforms in the military dimensions of cybersecurity and pointed out that future resilience must include strengthening norms and non-military tools.³⁹

Conclusion

To the maximum extent possible there should be a process that encourages the president and Congress to set responsible fiscal goals and make tough choices about priorities for the Department of Defense. Once those goals and priorities are set, we need to make sure the department has the tools it needs to ensure funds are spent efficiently and responsibly. The defense budget cannot continue to grow at current rates. Congress is in the position to rein in that spending and ensure that every dollar improves military capabilities and readiness and supports all of those who serve to protect us. Thank you again for the opportunity to testify. I am happy to answer any questions you may have.

³⁸ Government Accountability Office, *Weapon Systems Cybersecurity: Guidance Would Help DOD Programs Better Communicate Requirements to Contractors*, GAO-21-179 (March 4, 2021) 20, <https://www.gao.gov/assets/gao-21-179.pdf>.

³⁹ Cyberspace Solarium Commission, *Cyberspace Solarium Commission Report*, (March 2020), 46. https://drive.google.com/file/d/1ryMCIL_dZ30QyjFqFkkf10MxIXJGT4yv/view.