



MEMORANDUM

TO: AOC
FROM: Forza DC, LLC
DATE: 14.05.24
RE: 64th NDAA House Mark

The House Armed Services Committee (HASC) has released the text of Chairman Mike Rogers' (R-AL) National Defense Authorization Act (NDAA), also called the Chairman's Mark. The markup of this bill (H.R. 8070) is scheduled to occur on 22 May 2024.

The Chairman's Mark is in line with the President's Budget Request, funding national security programs within the Department of Defense (DoD), Department of Energy and other related national security programs at other agencies at \$895 billion. This amount has drawn criticism from the Chairman and other leaders in defense policy and there is speculation (bordering on expectation) that the number will be increased before the bill is signed into law.

Of the \$895 billion that would be authorized, \$5 billion is allocated for the recommendations from the Quality-of-Life Panel geared towards improving the lives of servicemembers and their families. It includes a pay raise and seeks to address issues impacting working military spouses.

The Mark also includes a number of cybersecurity provisions geared towards modernizing DoD's cybersecurity and cyber operations. This bill would allow US Cyber Command to accept voluntary services from cybersecurity experts in the private sector. It also would require DoD to evaluate the usefulness of anonymizing tools and secure domain name servers.

Below is a breakdown of defense funding levels:

Table with 2 columns: Category and Amount. Rows include Department of Defense (\$849.8B), Department of Energy (\$33.3B), NDAA Topline (\$883.1B), Defense Related Activities Outside NDAA Jurisdiction (\$11.9B), and National Defense Topline (\$895B).

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Electronic Warfare/EW Education

[Full Committee]

[FC] Section 901—Chief Talent Management Officer (pages 94-98)

This section would create the Chief Talent Management Officer who will serve as the principal staff assistant to the Secretary of Defense and Deputy Secretary of Defense on matters relating to total force talent management within the Department of Defense of both military and civilian personnel.

[FC] Compass Call Funding

The Compass Call program was funded at PB levels at a total of \$94.654M for procurement and \$132.475M for RDTE.

[Subcommittee on Strategic Forces]

[STRAT] Section 1641—Modification to Annual Assessment of Budget with Respect to Electromagnetic Spectrum Operations Capabilities (page 23)

This section would amend section 503 of title 10, United States Code, related to modeling and simulation capabilities for joint electromagnetic spectrum operations.

[Subcommittee on Tactical Air and Land Forces]

[TAL] Section 914—Army Electronic Warfare Center of Excellence (page 23-24)

This section would direct the Secretary of the Army to establish and operate an Electronic Warfare Center of Excellence within the Army Training and Doctrine Command.

[TAL] [Report Language] Army Utilization of Link 16

The committee notes that Link 16 is the primary Tactical Data Link for U.S. and allied military forces. Additionally, the committee notes that the Army has been designated the lead service,

and joint proponent for contested logistics worldwide. The committee understands that contested logistics will rely on joint interoperability. However, the committee is concerned that the delays in the Army fielding Link 16 throughout ground forces is undermining the timely attainment of force optimization. Therefore, the committee directs the Secretary of the Army to provide a briefing to the House Committee on Armed Services by December 1, 2024, on the Army's plan to accelerate the fielding of Link 16 throughout the Army for command and control, fires, and to ensure maximum interoperability, lethality, and survivability of combat and combat support elements supporting the Joint Force within contested logistics environments in the U.S. Indo-Pacific Command theater and meeting Joint All-Domain Command and Control goals worldwide.

[TAL] [Report Language] Trusted Military Communications via Team Awareness Kit

The committee recognizes that interoperable, low cost, mesh radio systems present unique benefits and capabilities to the Army. The committee also recognizes that artificial intelligence (AI) and voice replication pose considerable threats to tactical military communications. Moreover, the committee understands that the Department of Defense requires trusted, robust interoperable communication networks that are not vulnerable to AI voice manipulation. For example, mesh network radios with low electromagnetic signature, leveraging the Android Team Awareness Kit, may provide this capability to the tactical level while maintaining interoperability and trusted communication.

The committee encourages the Department of the Army to broadly adopt these systems to support tactical units' communications, and command and control needs.

Therefore, the committee directs the Secretary of the Army to provide a briefing to the House Committee on Armed Services by February 1, 2025, on their plan to provide tactical mesh radio systems to the ground forces. That plan shall include resourcing requirements and cost and timeline for implementation.

[TAL] [Report Language] Modular Open Systems Architecture Implementation for Collaborative Combat Aircraft Development and Fielding

The committee regards continued use of modular and open systems architecture (MOSA) standards as beneficial to reducing cost and increasing speed of evaluating and integrating new technologies to enhance competition, innovation, and interoperability. As the Air Force and Navy continue their acquisition of the Collaborative Combat Aircraft (CCA) capabilities, the committee expects the Air Force and Navy to ensure MOSA standards, as mandated in section 4401 of title 10, United States Code, are integrated into the acquisition and system requirements for CCA development.

Therefore, the committee directs the Secretary of the Navy, in coordination with the Secretary of the Air Force, to provide a briefing to the House Committee on Armed Services not later than February 1, 2025, that explains in sufficient detail how MOSA standards will be integrated into the acquisition and system requirements during development of CCA capabilities.

[Subcommittee on Seapower and Projection Forces]

[SPW] [Report Language] Future X-Band Radar

The committee supports the Navy's efforts to develop a Future X-Band Radar (FXR) to replace legacy radars with robust horizon and surface search and track. Development and production for this program is funded through the spectrum transition program, requiring no annual

authorization and appropriation. The committee wants to ensure that this unique funding stream provides a path to fielding of a sensor that is important to the U.S. Indo-Pacific Command and necessary to deconflict the 3.45-3.55 Ghz S-band spectrum. Other Transaction Authority (OTA) is an appropriate contract mechanism to accelerate fielding and the committee notes that the existing, competitively awarded SMARTS [Strategic and Spectrum Missions Advanced Resilient Trusted Systems] OTA could be used to award the next phase of the program in the first quarter of 2025.

Therefore, the committee directs the Secretary of the Navy to provide a briefing to the House Committee on Armed Services not later than March 1, 2025, on FXR development efforts. The briefing shall include, at a minimum:

- (1) an evaluation of the use of Other Transaction Authority to accelerate fielding of FXR, including SMARTS OTA as a vehicle for potentially awarding the next phase of the program;
- (2) a projected timeline for the FXR's development, testing, and deployment phases, ensuring alignment with operational requirements in the Indo-Pacific theater; and
- (3) an analysis of potential challenges and mitigation strategies associated with the accelerated fielding of the Future X-Band Radars, including supply chain vulnerabilities, integration challenges with existing naval platforms, and technological hurdles.

[SPW] [Report Language] Airborne Electronic Attack For The B-52

The committee notes the B-52 Stratofortress has been the backbone of the nation's strategic bomber force for more than 60 years. The aircraft has been updated extensively to adopt new capabilities and expand its role. The committee commends the Air Force for its continued efforts to modernize the B-52 by leveraging advanced technologies developed across the military services. The committee understands the Air Force recently moved to improve the B-52's sensor capability by adapting the APG-79 Active Electronically Scanned Array radar, originally used on Navy F/A-18 Super Hornets, to expand the navigation and targeting capability of the bomber. The committee understands the Air Force is currently planning a demonstration project to test how the ALQ-249 Next Generation Jammer Mid-Band, developed for the Navy's EA-18G Growler, could provide an Airborne Electronic Attack capability to the B-52. The committee directs the Secretary of the Air Force to provide a briefing to the House Committee on Armed Services not later than February 1, 2025, on the schedule for its planned demonstration and how it could operationalize the ALQ-249 on the B-52.

[SPW] [Report Language] Mobility Aircraft Connectivity

The committee understands that the United States Air Force's Air Mobility Command (AMC) is pursuing a strategy that would provide 25 percent of the rapid global mobility forces with enhanced situational awareness and connectivity by fiscal year 2025. To combat evolving global threats, the joint force requires a mission system that enables global command and control, provides accurate navigation, and allows for the maneuverability of the joint force while under attack.

The committee understands this capability was demonstrated during the Mobility Guardian 2023 exercise on two C-17s, one KC-135, and one C-130J where it proved an ability to improve communications between platforms while closing logistics gaps and kill chains throughout the theater. The proliferation of this capability throughout the AMC fleet by 2025 requires resourcing and fielding to enable training and rapid response capabilities. The committee also

understands that the operational landscape requires a rapid initial fielding effort, followed by traditional fleet wide fielding and sustainment.

The budget request for fiscal year 2025 provided \$38.2 million to begin these programs. The committee is concerned that this is an insufficient amount of funding to acquire these capabilities at scale in a timely manner. The committee directs the Commander, Air Mobility Command to provide a briefing to the House Committee on Armed Services not later than October 1, 2024, on which capabilities exist today and the roadmap to properly field these capabilities across the mobility fleet in a timely manner. The briefing should include an estimate of needed funding, aligned by budget line time, with cost, program, and execution data.

[Subcommittee on Readiness]

[RDY] Section 1051—Air Force Technical Training Center of Excellence (pages 39-40)

This section would require the Secretary of the Air Force to operate a Technical Training Center of Excellence.

[RDY] Section 2801—Development and Operation of the Naval Innovation Center at the Naval Postgraduate School (pages 108-111)

This section would allow the Secretary of the Navy to enter into a contract or other agreements with nonprofit organizations for the design, construction, and maintenance of a facility to serve as the Naval Innovation Center at the United States Naval Postgraduate School. It would also allow the Secretary of the Navy to accept gifts or donations in support of the Naval Innovation Center.

[RDY] Section 2804—Annual Five-Year Plans on Improvement of Department of Defense Innovation Infrastructure (pages 114-116)

This section would require each Secretary of a military department and the Secretary of Defense to submit, alongside the President's budget request, a five-year plan for the improvement of laboratories; test and evaluation ranges; and other research, development, test, and evaluation infrastructure. This five-year plan should include major lines of effort and milestones, as well as elements on military construction, renovation, and other infrastructure authorities.

[RDY] [Report Language] Reliable Power Source for Data Centers

The committee recognizes the critical national importance of data centers in facilitating the advancement of artificial intelligence as well as the storage, processing, and dissemination of vast amounts of data crucial to our nation's security. Recognizing the strategic significance of the Tahoe Reno Industrial Center (TRIC) as a hub for technological innovation critical to national security, the committee emphasizes the economic and national security benefits linked to expanding data centers both within TRIC and across the United States. The committee is concerned with the lack of available data center space and an adequate and reliable power supply to data centers nationwide. Therefore, the committee directs the Assistant Secretary of Defense for Energy, Installations, and Environment to provide a briefing to the House Committee on Armed Services not later than April 1, 2025, including the following information:

(1) ways the Department of Defense can collaborate with local municipalities, utilities, and the private sector to ensure robust and reliable access to data center space as well as reliable power supplies; and

(2) power transmission, distribution, and all other necessary infrastructure needed to facilitate the expansion of those data centers. region especially challenging for the projection of forces and sustainment of war fighting capabilities.

The Air Mobility Command is key across all five core capabilities of the fly, fix and support functions including airlift, air refueling, aeromedical evacuation, air mobility ground support operations (Global Air Mobility Support System), and command and control in contested, degraded, and operationally limited environments, particularly in the Indo-Pacific Region.

The AATTC is crucial to increasing the war fighting effectiveness and survivability of mobility forces. The National Defense Strategy also focuses on the importance of training with allies and partners, and the AATTC is critical to providing advanced tactical training to airlift aircrews of the Air National Guard, Air Force Reserve Command, Air Mobility Command, Air Combat Command, Air Force Special Operations Command, United States Marine Corps, and 18 allied partners in preparation for a contested logistics environment in the Indo-Pacific Region.

Therefore, the committee directs the Secretary of the Air Force, in coordination with the Commander, U.S. Indo-Pacific Command, to provide a briefing to the House Committee on Armed Services by December 1, 2025, on plans to enhance logistical warfighting readiness across Air Mobility Command formations, sister services, and allied partners through the AATTC to better prepare our forces for the threats, distances, and geography that will challenge us in a Pacific campaign.

[RDY] [Report Language] Allied Live Training Program Interoperability

The committee is concerned about the potential lack of interoperability of the Department of Defense's new live training equipment with North Atlantic Treaty Organization countries and allied nations in the Indo-Pacific region. Given the benefits to combat readiness, the committee supports the Department of Defense's new live training modernization programs that upgrade hardware and software to ensure seamless operation in joint force-on-force training exercises with allied militaries. The committee encourages the Department — in particular, the Army — to make interoperability with United States allies a requirement in the development of new live training equipment.

The committee directs the Secretary of the Army, in coordination with the Secretary of the Navy, to provide a briefing to the House Committee on Armed Services not later than December 1, 2024, that describes efforts by the Army and Marine Corps to ensure that interoperability with allied militaries is included as a requirement for their new live training programs.

[RDY] [Report Language] Army Multi-Domain Task Force Structure

The Army's Multi-Domain Task Forces (MDTFs) represent the critical centerpiece in operationalizing the Army's Multi-Domain Operations concept to transform into a modern force. The committee understands the Army's desire to design the structure and role of MDTFs to counter anti-access and aerial denial capabilities across the spectrum of conflict against near-peer adversaries. The ability to provide long range precision effects will enable the Army to provide the joint force a counter to hybrid threats posed by both Russia and China and additional freedom of maneuver which will be critical in a high-end conflict.

However, the committee is concerned about how the Army intends to operationally employ MDTFs and incorporate them with other Army formations, as well as how it intends to incorporate National Guard and Reserves forces into these plans. Therefore, the committee directs the Secretary of the Army to provide a briefing to the House Committee on Armed

Services not later than December 31, 2024, on MDTF future employment and force structure. The briefing should include the following information:

- (1) benefits of MDTF experimentation and lessons learned that can be adopted within other Army formations;
- (2) operational concepts to employ MDTFs in war-time or crisis scenarios;
- (3) plans or requirements to leverage joint-storage facilities for MDTF sustainment;
- (4) an outline of plans or concepts to employ Reserves and National Guard forces to support MDTF operations; and
- (5) current status of each MDTF, timelines to operationalize each, and impediments to reaching full operational capability before 2027.

[Subcommittee on Military Personnel]

[MILPERS] Section 532—Modernization of Recruitment for the Army (pages 37-38)

This section would require the Secretary of the Army to modernize the Army recruiting force by creating a professional recruiting military occupational specialty for enlisted and warrant officers.

[MILPERS] [Report Language] Feasibility of Establishing a Consortium on the Modernization of Professional Military Education

The committee understands the need to continue to modernize professional military education (PME) that better responds to emergent threats in multiple domains and disciplines brought about by Great Power Competition. The committee believes that advancing the ability to strategize and respond to long-term contingency planning and crisis operations requires curricula that is flexible, incorporates applied design and military innovation education, and creates coherency between the military services, the Defense Department, academia, and industry. Therefore, the committee directs the Secretary of Defense to submit a report to the Senate Committee on Armed Services and the House Committee on Armed Services not later than March 1, 2025, on the feasibility of establishing a consortium on PME modernization. In assessing the feasibility of such a consortium, the report should include an assessment of the following:

- (1) the ability of current curriculum standards and designs to respond to crises and emergent global threats;
- (2) means to improve military education and develop common, applied- design curriculum for institutions of military education;
- (3) establishing curricula that can be adopted across institutions of military education that is responsive to new opportunities and multidomain challenges and geared towards applied design and innovation;
- (4) the feasibility and advisability of making permanent the curriculum of the Master of Science in Applied Design for Innovation at the Naval Postgraduate School and replicating the curriculum at the participating institutions of the consortium;
- (5) means to foster integration of academic departments and improve interoperability between the military services and subject matters;
- (6) existing academic partnerships between institutions of PME and civilian institutions, including scopes, purposes, and lengths of such partnerships;
- (7) any research, curriculum development, collaborations, or sharing of faculty or students between institutions; and

(8) the ability of institutions of PME to host meetings between civilian institutions and students at all levels of classification.

[MILPERS] [Report Language] Report on Reservists with Specialized Skills

The committee notes the need to understand the specialized skills available to the joint force to continue the focus on great power competition. As such, the committee believes it is critical for the U.S. to maintain its global military and technological superiority and that the military departments must leverage the expertise and knowledge available from all service components. Therefore, the committee directs the Secretary of Defense to provide a report to the Senate Committee on Armed Services and the House Committee on Armed Services not later than March 1, 2025, that addresses the following elements:

- (1) how does the Department of Defense identify potential key professional fields and/or specialized skills that impact national security;
- (2) how is the Department of Defense and the military departments recruiting top-tier specialized talent to serve in Reserve Components;
- (3) how does the Department of Defense track the primary civilian occupation of those in the Reserve Components and who serve in key professional fields and/or possess specialized skills that impact national security;
- (4) has the Department of Defense considered or taken steps to form a technical reservist unit that leverages industry expertise; and
- (5) Any additional information the Secretary deems necessary and appropriate.

[MILPERS] [Report Language] Next Generation of Civilian Leaders Programs

The recruitment and retention of the next generation of career civil servant leaders is critical to civilian oversight of the Department of Defense. Professional development programs and fellowships bring talented individuals with a wide range of skills, knowledge, experience, and expertise to the Department for short-term rotations that sometimes lead to permanent job offers. The John S. McCain Strategic Defense Fellows Program, the Presidential Management Fellowship (PMF), and the Boren Fellowship are three pathways that recent graduates with advanced degrees can use to enter the Department of Defense for the first time. However, many challenges exist with recruiting and retaining these individuals beyond the tenure of their professional development fellowship.

Therefore, the committee directs the Secretary of Defense, in coordination with Secretaries of the Military Services, to provide a report to the House Committee on Armed Services by March 1, 2025, detailing the recruitment and retention of these fellowship programs. The report should include:

- (1) the number of fellows entering the John S. McCain Strategic Defense Fellows Program since its inception and their host organizations;
- (2) the number of fellows hired into the Department of Defense from the McCain Fellowship, PMF, and Boren Fellowship following their fellowship tenure's termination;
- (3) promotion pathways up to GS-15 and the Senior Executive Service available to McCain Fellows;
- (4) demographic details pertaining to each class of McCain Fellows; and
- (5) career development opportunities available to employees, including detail and secondment assignments to other agencies.

Russia

[FC][Report Language] Russian, Chinese, North Korean, and Iranian Defense Cooperation

The committee notes the challenges to U.S. interests and security posed by cooperation between Russia, China, Iran and North Korea. The committee directs the Secretary of Defense, in coordination with the Director of the Defense Intelligence Agency, to provide a briefing to the House Committee on Armed Services not later than December 1, 2024, on the state of defense cooperation between Russia, China, Iran and North Korea. At a minimum, this briefing shall include an assessment of:

- (1) the extent to which China, Iran, and North Korea, including state-owned and state-linked enterprises, provide material, military, technical, or logistical support to the Russian military, defense industrial base or intelligence agencies;
- (2) the material, military, technical, or logistical support Russia has provided China, Iran, and North Korea since the start of the full-scale invasion on February 24, 2022, in return for their military, economic, and diplomatic support for Russia throughout the war;
- (3) the extent Russia, China, Iran, and North Korea coordinate and further each other's disinformation and propaganda efforts;
- (4) the extent of any material, military, technical, or logistical support from Russia to Iran and its proxies that has enabled attacks on U.S. Government-owned or operated forces, facilities, or ships in the U.S. Central Command area of operations; and
- (5) the possible existence of any understandings or agreements between Russia and China for Russia to assist China with a potential resort to force involving Taiwan as well as what type of support Russia would provide.

China

[FC][Report Language] China's National Transportation and Logistics Public Information Platform within North Atlantic Treaty Organization Nations

The committee notes the Department of Defense contracting prohibition in Section 825 of the National Defense Authorization Act for Fiscal Year 2024 (Public Law 118-31). However, the committee is concerned about continued utilization of China's National Transportation and Logistics Public Information Platform (LOGINK). Therefore, the committee directs the Secretary of Defense, in consultation with the Secretary of State, to provide a briefing to the congressional defense committees not later than March 1, 2025. The briefing should include the following information:

- (1) a list of the ports within member nations of the North Atlantic Treaty Organization that previously utilized, currently utilize, or intend to utilize LOGINK or any other covered logistics platforms;
- (2) possible joint measures to mitigate identified risks of exposure to LOGINK and similar systems in European ports;
- (3) efforts undertaken to meet the requirement for negotiations in subsection (c) of Section 825 of the National Defense Authorization Act for Fiscal Year 2024 (Public Law 118-31); and
- (4) identifying possible alternative shipping routes for United States military and other government cargo through ports that do not currently utilize or intend to utilize LOGINK or other similar logistics platforms.

Acquisition/Supply Chain

[FC] Section 822—Performance Incentives Related to Commercial Product and Commercial Service Determinations (page 75)

This section would direct the Secretary of Defense to establish and maintain performance incentives for contract officers and program managers for requesting support from Defense Contract Management Agency, Defense Contract Audit Agency, and other Department experts in making commercial product or commercial service determinations prior to contract solicitation.

[FC] Section 831—Enhancing Requirements for Information Relating to Supply Chain Risk (pages 76-77)

This section would allow the Secretary of Defense to delegate supply chain risk management authority to defense agency directors, remove the Under Secretary of Defense for Acquisition and Sustainment and Chief Information Officer joint recommendation requirement, the Under Secretary of Defense for Intelligence and Security risk assessment requirement, and the Under Secretary of Defense for Acquisition and Sustainment concurrence requirement for supply chain risk management acquisition decisions. The requirements that are removed under this provision would be substituted with notification and internal consultation requirements.

[FC] Section 832—Supply Chain Illumination (Page 78)

This section would direct the Secretary of Defense to develop and implement incentives to encourage contractors of the Department of Defense to implement and use policies, procedures, and tools that allow assessment and monitoring of supply chains for vulnerabilities, security, and noncompliance risks.

[FC] Section 1411—Use of Domestic Sources by National Defense Stockpile (page 136)

This section would direct the National Defense Stockpile Manager to procure strategic and critical materials from domestic sources to the maximum extent practicable.

[FC] Section 1412—Restoring the National Defense Stockpile (pages 137-139)

This section would require the Department of Defense to develop a plan to restock the National Defense Stockpile for a sustained national emergency, including required budgetary resources, prioritize domestic content, and consider civilian needs during a sustained national emergency.

[FC] [Report Language] Natural Graphite Supply Chains and Synthetic Graphite Technologies for Lithium- Ion Battery Technology

The committee notes that Title III of the Defense Production Act (DPA) provides the President of the United States broad authorities to ensure timely availability of domestic industrial base capabilities essential for national defense.

DPA Title III is an important Department of Defense program with the authority to utilize economic incentives to create, maintain, protect, expand, or restore domestic sources for critical components, critical technology items, and industrial resources.

The committee is concerned about China's control over supply chains for critical materials needed to produce lithium-ion batteries, including natural graphite, synthetic, and hybrid graphite materials. The committee is aware of the Department's report titled "Securing Defense-Critical Supply Chains", that states "[b]y far the largest challenge for securing the supply of lithium batteries for DoD is the power of China's industrial base. China dominates the global advanced battery supply chain, including ... anodes (65 percent), and cathodes (53 percent)." The committee supports efforts to create, maintain, protect, expand, or restore domestic sources for critical materials and technologies required to secure a domestic lithium-ion battery supply chain. Therefore, the committee directs the Assistant Secretary of Defense for Industrial Base Policy to submit a report to the congressional defense committees not later than December 1, 2024, with the following information:

- (1) identification of domestic natural graphite resources and synthetic and hybrid graphite technologies and chemical compounds for lithium ion battery production;
- (2) efforts by the Department to test, develop, and field synthetic and hybrid graphite technologies and chemical compounds;
- (3) FY2022, FY2023, and FY2024 DPA Title III and Industrial Base Analysis and Sustainment (IBAS) investments in natural graphite, synthetic, and hybrid graphite materials;
- (4) a plan for onshoring, to the greatest extent practical, the natural graphite, synthetic, and hybrid graphite supply chains to meet the lithium ion battery requirements of the Department of Defense; and
- (5) budgetary requirements in future years for DPA Title III and IBAS to realize the onshoring plan.

[FC] [Report Language] Promotion of Domestic Battery Manufacturing and Military Applications

The committee recognizes the critical role of robust and secure domestic supply chains in safeguarding U.S. national and economic security interests. The Department has conducted assessments and studies of industrial base needs, noting that battery systems are "essential to thousands of military systems" supporting the warfighter and that the China dominates battery supply chains. While the committee recognizes that lead acid batteries will continue to be utilized heavily in military hardware, the committee notes that advances in battery technology, particularly the evolution of lithium-ion chemistry, have resulted in functional alternatives. Therefore, the committee directs the Secretary of Defense to provide a briefing to the House Committee on Armed Services by December 15, 2025, on current state of battery machine manufacturing in the United States. This briefing shall include, at a minimum:

- (1) an overview of the extent to which U.S. battery manufacturers rely on foreign-made equipment;
- (2) a review of potential vulnerabilities associated with the use of foreign-made equipment in domestic battery machine manufacturing;
- (3) recommendations aimed at enhancing the competitiveness of domestic battery machine manufacturing;
- (4) an assessment comparing lithium-ion batteries with their lead acid counterparts;
- (5) efforts undertaken to ensure that lithium-ion battery cells are manufactured within the United States; and
- (6) an overview of any testing or evaluation conducted on next-generation lithium-ion batteries, including performance metrics and reliability assessments.

[FC] [Report Language] Domestic Sourcing of Critical Materials through the National Defense Stockpile

The committee notes that the National Defense Stockpile Manager has authority, pursuant to 50 U.S.C. §98h-6, to restrict acquisitions of critical materials to domestic sources. The committee is concerned that this authority remains underutilized, with the Stockpile allowing traders who are sourcing foreign materials, including from China, to bid for and potentially win National Defense Stockpile acquisition contracts. The National Defense Stockpile has an important role to play in creating offtake demand for domestic manufacturers of critical materials. The committee expects the National Defense Stockpile Manager to use the authority to develop and conserve reliable sources of critical materials aggressively in order to ensure that the domestic industrial base is ready to meet emergent demand. The committee therefore directs the National Defense Stockpile Manager to brief the House Committee on Armed Services not later than December 1, 2024, on plans to use the authorities to develop and conserve reliable sources of critical materials in future acquisitions, especially acquisitions to take place in fiscal years 2024 through 2027.

[FC] [Report Language] Commercial Off the Shelf Solutions for Finding Foreign Control within the Defense Industrial Base

The committee remains concerned about the risks of foreign ownership, control, or influence of entities involved in Department of Defense research, development, testing, and evaluation (RDTE) programs and within the Defense Industrial Base (DIB). Therefore, the committee directs the Under Secretary of Defense for Acquisition and Sustainment to report to the House Committee on Armed Services not later than March 1, 2025, on the feasibility of establishing a pilot program within the Department of Defense to assess and mitigate the risks of foreign ownership, control, or influence on RDTE programs and the DIB. The feasibility study shall include available resources to assess companies that participate in Major Defense Acquisition Programs, companies that participate in the Small Business Innovation Research and Small Business Technology Transfer programs within the Department of Defense, Federally Funded Research and Development Centers that work with the Department of Defense, national laboratories conducting research, experimentation, and technology development in support of the Department of Defense, and universities that receive research funding from the Department of Defense. Further, the feasibility study shall consider using commercial tools for assessing and mitigating foreign ownership, control, or influence.

[FC] [Report Language] Digital Twinning for Acquisition Category 1 Major Defense Acquisition Programs

The committee notes the upside to developing digital electronic systems engineering (DESE) and electronic system hardware accurate digital twins. Several Department of Defense funded pilot projects have shown promise for sustainment benefits from digital twinning can be applied at any point during the weapon systems lifecycle. These pilot projects have also shown that the Department has this capability for developing electronic systems hardware accurate digital twinning. Therefore, the committee is encouraged by the Department's ability to learn from these pilot projects.

Therefore, the committee directs the Secretary of Defense to provide a

briefing to the House Committee on Armed Services not later than March 1, 2025, on Acquisition Category 1 Major Defense Acquisition Programs utilization of digital twinning. The briefing should include plans and resourcing for both the Department and performer workforce in digital electronic systems engineering and digital twinning.

[FC] [Report Language] Non Rare Earths Magnets

The committee is aware that neodymium-ironboron (NdFeB) magnets are used in both military and non-military technology. The committee acknowledges the Department of Defense's efforts to reduce dependence on Chinese-sourced magnets and secure a reliable supply chain for the Defense Industrial Base.

Therefore, the committee directs the Secretary of Defense to provide a briefing to the House Committee on Armed Services not later than March 1, 2025, on the development and integration of available alternative technologies for non-NdFeB permanent magnets to supplement domestic NdFeB magnet production and address potential shortages. The report shall provide an overview of Department of Defense investments in alternative technologies, such as iron nitride.

[FC] [Report Language] Recycling Rare Earth Elements

The committee directs the Under Secretary of Defense for Acquisition and Sustainment to provide a briefing to the House Committee on Armed Services not later than March 1, 2025, on the export of end-of-life equipment containing rare earth elements outside the United States. The briefing shall provide an overview of how and where the Department directs end-of-life equipment containing rare earths, including the percentage of such products that are exported, the percentage that remains in the U.S., the state of recycling for such products, the existing programs and authorities for the Department to collect and recycle such products, and a review of domestic permanent magnet and end-of-life equipment recyclers.

[Subcommittee on Cyber, Information Technologies, and Innovation]

[CITI] [Report Language] Acquisition Planning for Data Use and Storage

The committee is aware of anecdotal reports concerning how the Department of Defense struggles with forecasting data use and cloud storage as part of the acquisition process. Claims have been made that costs are treated as unforeseen, and program managers are challenged in the planning for incurred costs from cloud computing. To that end, the committee directs the Under Secretary of Defense for Acquisition & Sustainment, in coordination with the Department of Defense Chief Information Officer, provide a briefing to the House Committee on Armed Services not later than March 1, 2025, on the Department's efforts to enhance the planning and forecasting ability of program managers and acquisitions professionals in the use of cloud storage and computing.

[CITI] [Report Language] Security for the Joint Warfighter Cloud Capability Procurement

The committee recognizes the Department of Defense's progress with enterprise cloud capability through the Joint Warfighter Cloud Capability (JWCC) program. JWCC can provide scalable compute and storage for the Department and the military services, while also ensuring cost efficiencies for the taxpayer. While understanding that JWCC is a contract vehicle, the

committee believes that the Department should consider how to complement the offerings with embedded cloud security applications. To that end, the committee directs the Department of Defense Chief Information Officer to provide a briefing to the House Committee on Armed Services not later than February 1, 2025, on the Department's exploration of cloud- specific security solutions that could be considered as part of the JWCC effort.

[TAL] [Report Language] Critical Precursor Chemicals Supply Chain Vulnerabilities

The committee is concerned that our dependence on importing critical active and inert precursor chemicals for energetic materials and munitions from adversarial nations presents significant risk to U.S. national security. Of note, more than a third of critical precursor chemicals are sourced from China, threatening the Department of Defense's supply chains and readiness. The committee urges the Department to identify vulnerable active and inert precursor chemical supply chains for energetic materials and munitions and to communicate those gaps to the domestic biomanufacturing industrial base. Further, the committee directs the Secretary of Defense to provide a report to the House Committee on Armed Services not later than March 1, 2025. The report shall be unclassified and may include a classified annex if necessary. At a minimum, the report shall include:

- (1) an analysis of the vulnerabilities of the Department's supply chains for active and inert precursor chemicals for energetic materials and munitions including but not limited to CL-20, Trinitrotoluene, Butanetriol Trinitrate, High Melting Explosive, and Royal Demolition Explosive;
- (2) a review of the volumes of those active and inert precursor chemicals which were consumed by the Department in the last 5 fiscal years;
- (3) an analysis of domestic biomanufacturing capabilities and projected future demand of the precursor chemicals; and
- (4) a range of options to incorporate domestic biomanufacturing capabilities to cover the identified vulnerabilities.

Cybersecurity/Zero-Trust

[CITI] [Report Language] Transition Timelines from Joint Regional Security Stacks

The committee commends the Department of Defense's efforts towards Zero-Trust Architecture compliance by 2027. Pivoting towards Zero-Trust implementation requires concurrent efforts to pivot away from legacy programs and initiatives, one of the most significant being the Joint Regional Security Stacks. In section 1528 of the National Defense Authorization Act for Fiscal Year 2022 (Public Law 117-81), the Department of Defense and specifically, the heads of each military department and component were directed to submit an implementation plan for Zero-Trust Architecture. The committee believes that such implementation efforts would benefit from greater clarity on the work necessary to move away from the current architectures in place. To that end, the committee directs the Department of Defense Chief Information Officer to provide a briefing to the House Committee on Armed Services no later than February 1, 2025, on the current and updated schedules from Department of Defense components migrating toward Zero-Trust Architecture.

[CITI] Section 1501—Authority to Accept Voluntary and Uncompensated Services from Cybersecurity Experts (page 44)

This section would provide the legal authority for the military services to accept voluntary and uncompensated services from civilian cybersecurity experts to train servicemembers on technical matters. It would solidify the legal basis for the United States Marine Corps Cyber Auxiliary program, as well as enable the other military services to establish their own Cyber Auxiliary programs. This section builds on committee report language titled "Cyber Auxiliary Utilization," which accompanied the James M. Inhofe National Defense Authorization Act for Fiscal Year 2023 (Public Law 117-263).

[CITI] Section 1521—Usability of Antiquated Data Formats for Modern Operations (page 47-51)

This section would require the Secretary of Defense and the Secretaries of the military departments to develop both a strategy and roadmap to optimize and improve the Department of Defense's reliance on antiquated data formats.

[CITI] Section 1522—Modernization of the Department of Defense's Authorization to Operate Processes (page 52-55)

This section would require the Department of Defense to take actions directed at improving and streamlining the processes regarding the "Authority to Operate" for information technology.

[CITI] [Report Language] Clarification and Deconfliction of Responsibilities for Cybersecurity Functions within the Department of Defense

The committee believes that proper management of information technology and risk mitigation within any single portion of the Department of Defense is too vast to fall exclusively to any single senior official. This complexity in the operations, oversight, policy, and resourcing of information technology and cybersecurity necessitates a "team" approach. The committee recognizes the unique value provided by Chief Information Officers, acquisition personnel, and cyberspace operations organizations towards securing a network and technology landscape as vast as the one within the Department of Defense. From the perspective of statutory authorities, the Department is responsible for functions dictated across titles 10, 40, 44, and 50, United States Code. The committee is aware of anecdotal information suggesting that there have been occasions in which the various authorities are interpreted to be in conflict with each other, specifically as relates to cybersecurity responsibilities.

To better understand this situation, the committee directs the Secretary of Defense, in coordination with the Secretary of the Army, the Secretary of the Navy, and Secretary of the Air Force, to submit a report to the congressional defense committees not later than May 1, 2025, which details the collective efforts related to the cybersecurity program as required under title 44, United States Code. This report should also provide clarity to the primary and secondary officials within each organization charged with leading, executing, and implementing those statutory responsibilities. Additionally, the report should explain how senior officers charged in one portion of statute are made aware of decisions executed by other senior officers leveraging other parts of statute.

[CITI] [Report Language] Department of Defense Information Network Approved Products List Efficacy

The committee recognizes that the Defense Information Systems Agency (DISA) maintains the Department of Defense Information Network Approved Products List (DODIN APL), which provides a consolidated list of products that have been certified as meeting cybersecurity and interoperability requirements as defined by the Unified Capabilities Requirement. According to DISA, the DODIN APL is the only listing of equipment by the Department to be fielded in Department of Defense networks, however, the committee is aware of reports that Department of Defense components are utilizing products not found on the DODIN APL, and potentially without the requisite waivers necessary to justify use of products not on the DODIN APL. If accurate, the committee is concerned by such claims when similar products and capabilities which have been certified on the DODIN APL are available. To that end, the committee directs the Department of Defense Chief Information Officer to provide a briefing to the House Committee on Armed Services no later than May 1, 2025, on its understanding of both the problem and efforts underway to address non-compliance within the Department of Defense for present instruction to use of DODIN APL products and services.

[STRAT] [Report Language] Cyber Intrusion Pilot for Nuclear Command, Control and Communications

The committee notes the Nuclear Command, Control and Communications (NC3) Enterprise Center is carrying out a pilot program, known as the Cyber Intrusion Pilot (CIP), to demonstrate persistent real-time cybersecurity monitoring and visibility capabilities and to detect anomalies and vulnerabilities based on network behavior modeling and traffic analysis. In addition to informing the NC3 Enterprise Cyber Sensing and Monitoring Strategy, the committee believes the CIP has the potential to make a significant contribution to enhancing the cybersecurity of the broader NC3 architecture. Therefore, the committee directs the Commander of U.S. Strategic Command to submit a report to the House Committee on Armed Services not later than February 1, 2025, on the results of the pilot effort to date, as well as any associated lessons learned. The report shall also include an assessment of prioritized options to enhance the pilot program and deploy its capabilities at greater scale.

Data Management/Artificial Intelligence

[FC] [Report Language] Cost Budgeting for Programs Containing Artificial Intelligence Elements

The committee acknowledges the importance of incorporating Artificial Intelligence (AI), Machine Learning (ML), and Computer Vision (CV) models into programs to support the warfighter. The committee is concerned about accurate budgeting for inclusion of AI, ML, and CV into programs. Therefore, the committee directs the Secretary of Defense, in coordination with the Undersecretary of Defense for Acquisition and Sustainment, to report to the House Committee on Armed Services by March 1, 2025, with a plan to ensure the budgeting process for programs containing AI elements such as ML and CV, include estimates for the data required to train, maintain and improve AI models or systems. The report shall include the following elements:

- (1) an assessment of the costs associated with the data required to train, maintain or improve AI models or systems;
- (2) an assessment of the current programs containing AI elements; and
- (3) a process to ensure the costs associated with the data required to train, maintain or improve AI models or systems are appropriately incorporated into life cycle sustainment estimates for future programs containing Artificial Intelligence elements.

[FC] [Report Language] Digital Engineering Implementation and Inclusion of Small Defense Contractors

The committee commends the Department for the December 2023 release of Instruction 5000.97, which outlines the strategic implementation of digital engineering across defense acquisition programs. The committee notes that digital engineering can offer significant improvements in efficiency, costs, and capabilities in procurement and lifecycle management, and that the instruction provides needed direction for the Department and contractors in this space.

However, the committee is concerned that, while large defense contractors maintain the resources and knowledge to seamlessly adopt digital engineering practices, small defense contractors may face challenges in adapting to these new requirements. The transition to digital engineering methodologies, while beneficial, poses significant financial and technical challenges for these firms, potentially leading to a disparity in capability and heightened barriers to participation in the Department of Defense programs. Therefore, the committee encourages the Department to explore mechanisms by which it can lower barriers to participation in digital engineering platforms and processes by small contractors.

Accordingly, the committee directs the Under Secretary of Defense for Research and Engineering to submit a briefing to the congressional defense committees not later than December 15, 2024, on the implementation of digital engineering by small defense contractors at the prime and subcontractor level. This briefing shall include, at a minimum:

- (1) an analysis of the current capabilities of small defense contractors in terms of digital engineering, including an assessment of the challenges and barriers they face in adopting DOD Instruction 5000.97; and
- (2) an overview of any initiatives to facilitate digital engineering collaboration between large defense contractors and small businesses to ensure knowledge transfer, best practices, and inclusive participation in defense projects.

[CITI] Section 221—Plan for Establishment of Secure Computing and Data Storage Environment for Testing of Artificial Intelligence Trained on Biological Data (pages 28-33)

This section would require the Under Secretary of Defense for Research and Engineering, in coordination with the Chief Digital and Artificial Intelligence Officer, to submit an implementation plan, not later than 1 year after the date of the enactment of this Act, on the feasibility of establishing a secure computing and data storage environment to facilitate the testing of artificial intelligence models trained on biological data and the development and testing of products generated by such models.

[CITI] [Report Language] Acquisition Planning for Data Use and Storage

The committee is aware of anecdotal reports concerning how the Department of Defense struggles with forecasting data use and cloud storage as part of the acquisition process. Claims

have been made that costs are treated as unforeseen, and program managers are challenged in the planning for incurred

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costs from cloud computing. To that end, the committee directs the Under Secretary of Defense for Acquisition & Sustainment, in coordination with the Department of Defense Chief Information Officer, provide a briefing to the House Committee on Armed Services not later than March 1, 2025, on the Department's efforts to enhance the planning and forecasting ability of program managers and acquisitions professionals in the use of cloud storage and computing.

[CITI] [Report Language] Combined Joint All Domain and Control Applications

The committee applauds the Chief Digital and Artificial Intelligence (AI) Office's effort to advance Combined Joint All Domain and Control (CJADC2) applications and capabilities across combatant commands through rapid prototyping, experimentation, and production at scale. The committee recognizes U.S. Central Command (CENTCOM), U.S. Northern Command (NORTHCOM), U.S. European Command (EUCOM) and U.S. Indo-Pacific Command (INDOPACOM) for scaling successful efforts such as the CJADC2 Mission Application prototypes into enterprise-wide production capabilities. The scaled capability has become a central operating system for decision making spanning directorates and warfighting functions to include intelligence, operations, and

logistics. Given its expansive use and criticality to mission success, the committee believes there are needs across all the combatant commands. Additionally, the committee recognizes the importance of timely and thorough data sharing between allies and partners. While there are positive efforts such as INDOPACOM's Mission Data Platform and CENTCOM's nascent initiative, there remains a significant gap at other combatant commands.

Therefore, the committee directs the Chief Digital and Artificial Intelligence Officer, in consultation with the combatant commands, to provide a briefing to the House Armed Services Committee no later than March 1, 2025, on plans to scale efforts such as the CJADC2 Mission Applications more broadly. The report shall contain at a minimum, the following:

- (1) progress thus far in scaling the deployment;
- (2) plans and timelines for potential expansion; and
- (3) efforts to integrate with the Mission Partner Environment.

[TAL] [Report Language] [Report Language] Trusted Military Communications via Team Awareness Kit

The committee recognizes that interoperable, low cost, mesh radio systems present unique benefits and capabilities to the Army. The committee also recognizes that artificial intelligence (AI) and voice replication pose considerable threats to tactical military communications. Moreover, the committee understands that the Department of Defense requires trusted, robust interoperable communication networks that are not vulnerable to AI voice manipulation. For example, mesh network radios with low electromagnetic signature, leveraging the Android Team Awareness Kit, may provide this capability to the tactical level while maintaining interoperability and trusted communication.

The committee encourages the Department of the Army to broadly adopt these systems to support tactical units' communications, and command and control needs.

Therefore, the committee directs the Secretary of the Army to provide a briefing to the House Committee on Armed Services by February 1, 2025, on their plan to provide tactical mesh radio

systems to the ground forces. That plan shall include resourcing requirements and cost and timeline for implementation.

[Subcommittee on Readiness]

[RDY] [Report Language] Reliable Power Source for Data Centers

The committee recognizes the critical national importance of data centers in facilitating the advancement of artificial intelligence as well as the storage, processing, and dissemination of vast amounts of data crucial to our nation's security. Recognizing the strategic significance of the Tahoe Reno Industrial Center (TRIC) as a hub for technological innovation critical to national security, the committee emphasizes the economic and national security benefits linked to expanding data centers both within TRIC and across the United States.

The committee is concerned with the lack of available data center space and an adequate and reliable power supply to data centers nationwide. Therefore, the committee directs the Assistant Secretary of Defense for Energy, Installations, and Environment to provide a briefing to the House Committee on Armed Services not later than April 1, 2025, including the following information:

- (1) ways the Department of Defense can collaborate with local municipalities, utilities, and the private sector to ensure robust and reliable access to data center space as well as reliable power supplies; and
- (2) power transmission, distribution, and all other necessary infrastructure needed to facilitate the expansion of those data centers.

Quantum

[CITI] Section 217: Measures to Advance Quantum Information Science within the Department of Defense (pages 16-21)

This section would require the Secretary of Defense to develop a strategic plan to guide the development and maturation of quantum information sciences technologies within the Department of Defense and military services. In addition, this section would require the Secretary to establish a center of excellence for quantum computing at an existing military service laboratory.

[CITI] [Report Language] Utility Scale Quantum Computing

The committee recognizes the importance of the Defense Advanced Research Projects Agency's (DARPA) Underexplored Systems for Utility-Scale Quantum Computing (US2QC) program and the significant progress made in demonstrating the technical feasibility of fault-tolerant utility-scale operations faster than conventional predictions. The committee is encouraged by DARPA's multi-phase, multi-year approach to exploring new ways to scale qubit count for larger, more complex systems for defense, scientific, and civilian applications. As the technological achievements associated with US2QC are demonstrated, it is critical that the Department maintains an accelerated pace of development to ensure the United States preserves its global lead in quantum computing. Given the significant capital investments required for fault-tolerant, utility-scale systems, it is imperative that the Department begins planning for project transition, supporting infrastructure and follow-on US2QC programs and funding. Therefore, the committee directs the Under Secretary of Defense for Research and Engineering to provide a briefing to the House Committee on Armed Services not later than December 1, 2024, on the status of the US2QC program and planned transition activities. The briefing shall include:

- (1) a summary of the technical milestones and achievements of the US2QC program;
- (2) a detailed assessment of the timeline associated with fielding fault-tolerant utility-scale quantum computers compared to previous estimates;
- (3) an analysis of potential US2QC transition partners across the military services, National Laboratories, and within the Office of the Secretary of Defense, to include the timelines associated with those transitions; and
- (4) an assessment of funding required to maintain the research, development, and demonstration of fault-tolerant, utility-scale quantum computers.

Cloud/Hybrid Space

[STRAT] Section 1605—Pilot Program to Demonstrate Hybrid Space Architecture (pages 16-18)

This section would require the Commander of the Space Systems Command of the Space Force to carry out a pilot program to demonstrate a hybrid space architecture and to demonstrate that architecture by integrating a military communication system.

Miscellaneous

[FC] Section 1031—Authority to Contribute to Innovation Fund (page 117)

This section would amend subchapter II of chapter 138 of title 10, United States Code, to authorize the Secretary of Defense to contribute to the North Atlantic Treaty Organization Innovation Fund.

[CITI] Section 223—Biotechnology Roadmap (page 37-43)

This section would require that not later than 1 year after the date of the enactment of this Act, and not less frequently than once every 2 years thereafter, the Secretary of Defense would be required to develop a biotechnology roadmap to guide efforts of the Department of Defense relating to biotechnology.

[RDY] Section 1015—Pilot Program on Use of Automated Inspection Technologies at Shipyards (pages 37-38)

This section would authorize a pilot program to procure automated inspection technologies for maintenance inspections of naval vessels and upgrade information technology infrastructure to support integrating these technologies.

[RDY] Section 2804—Annual Five-Year Plans on Improvement of Department of Defense Innovation Infrastructure (pages 114-116)

This section would require each Secretary of a military department and the Secretary of Defense to submit, alongside the President's budget request, a five-year plan for the improvement of laboratories; test and evaluation ranges; and other research, development, test, and evaluation infrastructure. This five-year plan should include major lines of effort and milestones, as well as elements on military construction, renovation, and other infrastructure authorities.

[MILPERS] [Report Language] Department of Defense and Service Academy Research Partnerships

The committee notes that the Department of Defense's basic research initiatives enable development in emerging technologies that provide transformational military capabilities

necessary to maintain our advantage. Given that colleges and universities perform more than half of the Department of Defense-sponsored basic research it is imperative that academic institutions have the funding and relationships within the Department needed to conduct cutting-edge basic research of importance. Therefore, the committee directs the Under Secretary of Defense for Research and Engineering, in coordination with the Under Secretary of Defense for Acquisition and Sustainment, to provide a report to the Senate Committee on Armed Services and the House Committee on Armed Services not later than March 1, 2025, assessing the Department's ability to work in partnership with the service academies, including:

- (1) the percentage of Department-sponsored basic research that is being conducted at service academies;
- (2) the extent to which Defense Innovation Unit and other innovation entities across the Department are utilizing service academy-conducted research to address the challenges of the future;
- (3) the number of service academy-researched projects which have become programs of record; and
- (4) the extent to which the Department provides full or partial funding for research conducted at service academies.