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Gaming, exercising, modeling, and simulation to support great power competition
Graphitic composites and foam for special operations forces communications and intelligence support systems
Head supported mass
Hypersonic defensive and offensive capabilities
Low-cost attritable aircraft
Microelectronics standards for quantifiable assurance
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NC-135W retirement
Optimizing research within Department of Defense
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Mandatory disclosure of potential presence of mold and health effects of mycotoxins before a lease is signed for privatized military housing (sec. 2823)

Implementation of recommendations from audit of medical conditions of residents in privatized military housing (sec. 2824)

SUBTITLE C—LAND CONVEYANCES

Conveyance, Joint Base Charleston, South Carolina (sec. 2841)

SUBTITLE D—OTHER MATTERS

Integrated master infrastructure plan to support defense of Guam (sec. 2861)

Repeal of requirement for Interagency Coordination Group of Inspectors General for Guam Realignment (sec. 2862)

Temporary authority for acceptance and use of funds for certain construction projects in the Republic of Korea (sec. 2863)

Modification of quitclaim deed between the United States and the City of Clinton, Oklahoma (sec. 2864)

Prohibition on joint use of Homestead Air Reserve Base with civil aviation (sec. 2865)

Inclusion of infrastructure improvements identified in the report on strategic seaports in Defense Community

Infrastructure Pilot Program (sec. 2866)

Procurement of electric, zero emission, advanced-biofuel-powered, or hydrogen-powered vehicles for the Department of Defense (sec. 2867)

ITEMS OF SPECIAL INTEREST

Accessible Military Housing Enhancement

Adak, Alaska

Army ammunition plants

Briefing on cost benefit of improving facilities for or relocating Fort Douglas reserve component

Briefing on military housing complaint database

Camp Bull Simons alignment review

Edgewood area, Aberdeen Proving Ground

Energy Resilience Conservation Investment Program flexibility

General and Flag Officers quarters

Housing shortages and challenges

Improving energy efficiency at overseas military installations

Leveraging competition to enhance the cost effectiveness of United States Air Force chiller procurement

Pohakuloa Training Area land lease negotiations

Secure Compartmented Information Facilities accessibility compliance

Water treatment facilities

Yuma Proving Ground

DIVISION C—DEPARTMENT OF ENERGY NATIONAL SECURITY AUTHORIZATIONS AND OTHER AUTHORIZATIONS

TITLE XXXI—DEPARTMENT OF ENERGY NATIONAL SECURITY PROGRAMS

SUBTITLE A—NATIONAL SECURITY PROGRAMS AND AUTHORIZATIONS

National Nuclear Security Administration (sec. 3101)

Defense environmental cleanup (sec. 3102)

Other defense activities (sec. 3103)

Nuclear energy (sec. 3104)

SUBTITLE B—PROGRAM AUTHORIZATIONS, RESTRICTIONS, AND LIMITATIONS

Workforce enhancement for National Nuclear Security Administration (sec. 3111)
Acceleration of depleted uranium manufacturing processes (sec. 3112)
Certification of completion of milestones with respect to plutonium pit aging (sec. 3113)
Assistance by the National Nuclear Security Administration to the Air Force for the development of the Mark 21A fuse (sec. 3114)
Extension of deadline for transfer of parcels of land to be conveyed to Los Alamos County, New Mexico (sec. 3115)
Use of alternative technologies to eliminate proliferation threats at vulnerable sites (sec. 3116)
Update to plan for deactivation and decommissioning of nonoperational defense nuclear facilities (sec. 3117)

SUBTITLE C—BUDGET AND FINANCIAL MANAGEMENT MATTERS

Modification of cost baselines for certain projects (sec. 3121)
Unavailability for overhead costs of amounts specified for laboratory-directed research and development (sec. 3122)
Purchase of real property options (sec. 3123)
Determination of standardized indirect cost elements (sec. 3124)
Adjustment of minor construction threshold (sec. 3125)
Requirements for specific request for new or modified nuclear weapons (sec. 3126)
Limitation on use of funds for National Nuclear Security Administration facility advanced manufacturing development (sec. 3127)

SUBTITLE D—OTHER MATTERS

Repeal of obsolete provisions of the Atomic Energy Defense Act and other provisions (sec. 3131)

BUDGET ITEMS

W80-4 Sea-launched Cruise Missile
Savannah River Plutonium Processing Facility
Secondary Capability Modernization
Inertial Confinement Fusion
Advanced Simulation and Computing
Operations of Facilities
Maintenance and Repair of Facilities
West End Protected Area Reduction project
Bioassurance Program
Office of River Protection radioactive liquid tank waste stabilization and disposition

Lawrence Livermore National Laboratory excess facilities decontamination and demolition
Oak Ridge nuclear facility decontamination and demolition
Savannah River Site radioactive liquid tank waste stabilization
Waste Isolation Pilot Plant construction
Uranium Enrichment Decontamination and Decommissioning Fund

ITEMS OF SPECIAL INTEREST

Comptroller General review of End State Contracting task orders
Comptroller General review of Office of Environmental Management's strategy for complex-wide waste disposal
Comptroller General review of the Office of Environmental Management's workforce capacity, skills, retention, and hiring
Comptroller General review of the Savannah River Site's H-Canyon
Comptroller General to continue ongoing evaluation of the Hanford Waste Treatment Plant
Comptroller General to continue ongoing oversight of the Waste Isolation Pilot Plant
Cybersecurity at nuclear weapons complexes of the National Nuclear Security Administration
Department of Energy contracting
Domestic uranium enrichment
Extending provision to continue reviewing National Nuclear Security Administration financial integration
Five year bio-assurance report
National Nuclear Security Administration planning for National Ignition Facility/Inertial Confinement Fusion program
National Nuclear Security Administration small business contracting
National Nuclear Security Administration's foundational nuclear nonproliferation capabilities
Nuclear weapons industrial base risks and gaps
Nuclear weapons life cycle
Periodic review of National Nuclear Security Administration infrastructure
Periodic review of National Nuclear Security Administration weapons systems
Report on Department of Energy Office of Environmental Management Test Bed Initiative

TITLE XXXII—DEFENSE NUCLEAR FACILITIES SAFETY BOARD

Authorization (sec. 3201)

Delegation of authority to Chairperson of Defense Nuclear Facilities Safety Board (sec. 3202)

TITLE XXXV—MARITIME ADMINISTRATION

Maritime Administration (sec. 3501)

DIVISION D—FUNDING TABLES

TITLE XLI—PROCUREMENT

Procurement (sec. 4101)

Procurement for overseas contingency operations (sec. 4102)

TITLE XLII—RESEARCH, DEVELOPMENT, TEST, AND EVALUATION

Research, development, test, and evaluation (sec. 4201)

Research, development, test, and evaluation for overseas contingency operations (sec. 4202)

TITLE XLIII—OPERATION AND MAINTENANCE

Operation and maintenance (sec. 4301)

Operation and maintenance for overseas contingency operations (sec. 4302)

TITLE XLIV—MILITARY PERSONNEL

Military personnel (sec. 4401)

Military personnel for overseas contingency operations (sec. 4402)

TITLE XLV—OTHER AUTHORIZATIONS

Other authorizations (sec. 4501)

Other authorizations for overseas contingency operations (sec. 4502)

TITLE XLVI—MILITARY CONSTRUCTION

Military construction (sec. 4601)

Military construction for overseas contingency operations (sec. 4602)

TITLE XLVII—DEPARTMENT OF ENERGY NATIONAL SECURITY PROGRAMS

Department of Energy national security programs (sec. 4701)

Authorization of amounts in funding tables (sec. 4001)

LEGISLATIVE REQUIREMENTS

COMMITTEE ACTION

CONGRESSIONAL BUDGET OFFICE COST ESTIMATE

REGULATORY IMPACT

CHANGES IN EXISTING LAW

REPORT TO ACCOMPANY S.

PURPOSE OF THE BILL

This bill would:

(1) Authorize appropriations for (a) procurement, (b) research, development, test, and evaluation, (c) operation and maintenance and the revolving and management funds of the Department of Defense for fiscal year 2023;

(2) Authorize the personnel end strengths for each military Active-Duty component of the Armed Forces for fiscal year 2023;

(3) Authorize the personnel end strengths for the Selected Reserve of each of the reserve components of the Armed Forces for fiscal year 2023;

(4) Impose certain reporting requirements;

(5) Impose certain limitations with regard to specific procurement and research, development, test, and evaluation actions and manpower strengths; provide certain additional legislative authority, and make certain changes to existing law;

(6) Authorize appropriations for military construction programs of the Department of Defense for fiscal year 2023; and

(7) Authorize appropriations for national security programs of the Department of Energy for fiscal year 2023.

COMMITTEE OVERVIEW

Each year, the National Defense Authorization Act authorizes funding levels and provides authorities for the U.S. military and other critical defense priorities, ensuring our troops have the training, equipment, and resources they need to carry out their missions. On June 16, 2022, the Senate Armed Services Committee voted in bipartisan fashion, 23-3, to advance the James M. Inhofe National Defense Authorization Act for Fiscal Year 2023 to the Senate floor.

The national security challenges before the United States are momentous. In its 2022 National Defense Strategy, the Department of Defense (DOD) judges that China is the "most consequential strategic competitor and the pacing challenge for the Department," and identifies Russia as an "acute threat." These global rivals do not accept the international norms that have helped maintain peace and stability for the better part of a century, and our long-term strategic competition with China and Russia is likely to intensify. Even as the United States navigates this competition, the Department of Defense must also manage persistent threats such as North Korea, Iran, and violent

terrorist organizations. The interconnected nature of these and other threats will drive how the United States resources and transforms its tools of national power to rise to the challenge. The passage of the National Defense Authorization Act for Fiscal Year 2023 is an important step toward achieving that goal.

To that end, the National Defense Authorization Act for Fiscal Year 2023:

(1) Supports the DOD in its mission to meet the objectives of the 2022 National Defense Strategy, including defending the U.S. Homeland; deterring adversaries; prevailing in long-term strategic competition; and building a resilient Joint Force.

(2) Strengthens the all-volunteer force and improves the quality of life of the men and women of the total force (Active Duty, National Guard, and Reserves), their families, and DOD civilian personnel as they fulfill their solemn oath to the Constitution of the United States.

(3) Provides our military services and combatant commanders with the resources needed to carry out the National Defense Strategy and out-compete, deter, and, if necessary, prevail against near-peer rivals.

(4) Enhances deterrence by recapitalizing and modernizing the U.S. nuclear triad; ensuring the safety, security, and reliability of our nuclear stockpile, delivery systems, and infrastructure; increasing capacity in theater and Homeland missile defense; and strengthening nonproliferation programs.

Meeting the challenges before the United States will require bold and far-sighted national security decisions. The James M. Inhofe National Defense Authorization Act for Fiscal Year 2023 ensures that we have the policies and resources to deter America's adversaries, reassure our allies, and provide our forces with the tools and capabilities to overcome threats around the globe.

BUDGETARY EFFECTS OF THIS ACT (SEC. 4)

The committee recommends a provision that would require that the budgetary effects of this Act be determined in accordance with the procedures established in the Statutory Pay-As-You-Go Act of 2010 (title I of Public Law 111-139).

SUMMARY OF DISCRETIONARY AUTHORIZATIONS AND BUDGET AUTHORITY IMPLICATION

The administration's budget request for national defense discretionary programs within the jurisdiction of the Senate

Committee on Armed Services for fiscal year 2023 was \$773.0 billion for base Department of Defense (DOD) programs and \$29.4 billion for national security programs in the Department of Energy (DOE).

The committee recommends an overall discretionary authorization of \$857.46 billion in fiscal year 2023, including \$817.15 billion for base DOD programs, \$29.71 billion for national security programs in the DOE, and \$10.6 billion for defense-related activities outside the jurisdiction of the NDAA.

The table preceding the detailed program adjustments in Division D of this bill summarizes the direct discretionary authorizations in the committee recommendation and the equivalent budget authority levels for fiscal year 2023 defense programs. The table summarizes the committee's recommended discretionary authorizations by appropriation account for fiscal year 2023 and compares these amounts to the request

DIVISION A—DEPARTMENT OF DEFENSE AUTHORIZATIONS

TITLE I—PROCUREMENT

SUBTITLE A—AUTHORIZATION OF APPROPRIATIONS

Authorization of appropriations (sec. 101)

The committee recommends a provision that would authorize the appropriations for procurement activities at the levels identified in section 4101 of division D of this Act.

SUBTITLE B—ARMY PROGRAMS

Limitations on production of Extended Range Cannon Artillery howitzers (sec. 111)

The committee recommends a provision that would require the post-prototype production strategy for Extended Range Cannon Artillery howitzers to be based on a full and open competitive approach that considers the comparative cost and value of a new-build versus Paladin-modification production approach. The provision would require the Secretary of the Army to certify

compliance of the acquisition strategy and provide a briefing to the congressional defense committees prior to issuing a Request for Proposal for post-prototype procurement.

SUBTITLE C—NAVY PROGRAMS

DDG(X) destroyer program (sec. 121)

The committee recommends a provision that would prescribe certain aspects of the DDG(X) destroyer program.

The committee urges the Secretary of the Navy to implement an acquisition strategy for the next large surface combatant, known as DDG(X), based on a collaborative design, development, and production approach between the Government and industry.

The committee notes that many recent Navy shipbuilding programs, including the DDG-1000 and Littoral Combat Ship programs, experienced significant cost increases, program delays, and reliability issues due to flaws in the earliest acquisition strategies.

Accordingly, the committee believes it is critical that the Navy work closely with industry to ensure appropriate design and technical maturity in developing lead ship acquisition strategies. The committee further believes that the DDG(X) acquisition strategy should be modeled on and leverage the best practices of the *Columbia*-class Integrated Product and Process Development (IPPD) contract, with integrated lines of effort in design, technology maturation, and construction. Furthermore, the committee views the technology maturation initiatives contained in section 124 of the National Defense Authorization Act for Fiscal Year 2020 (Public Law 116-92) as key elements in the DDG(X) acquisition strategy.

The committee also directs the Secretary of the Navy to submit a report to the congressional defense committees with the budget request for fiscal year 2024 that describes the extent to which the Navy will utilize an IPPD-type acquisition strategy for the DDG(X) program. This report shall describe the following lines of effort and how they will be integrated from fiscal year 2023 through fiscal year 2040: (1) Ship design, including concept, preliminary, and detailed; (2) Hull form design and selection; (3) Combat systems, including lessons learned from DDG-125 Combat Systems Ship's Qualification Trials; (4) Hull, mechanical and electrical systems, including the land-based testing required under section 131 of the National Defense Authorization Act for Fiscal Year 2020; and (5) Construction, including the transition from production of the Flight III DDG-51 program to the DDG(X) program.

Multiyear procurement authority for Arleigh Burke-class destroyers (sec. 122)

The committee recommends a provision that would provide the Secretary of the Navy with the authority to enter into one or more multiyear contracts for the procurement of up to 15 *Arleigh Burke*-class guided missile destroyers. The provision would also require the Secretary to negotiate priced options to procure one destroyer in each of fiscal years 2023 through 2027 in addition to the destroyers procured under such contract or contracts.

The committee notes this would be the fifth multiyear contract for the *Arleigh Burke*-class program. The Navy estimates that each of the previous four multiyear procurement contracts (fiscal years 1998-2001, 2002-2005, 2013-2017, and 2018-2022) achieved savings of greater than \$1.0 billion, as compared to annual procurements.

In exercising the authority provided by this provision, the committee expects the Navy to request a minimum of two *Arleigh Burke*-class destroyers annually in fiscal years 2023 through 2027 consistent with the procurement profile in the fiscal year 2023 budget request, negotiate an additional priced option ship in each of these years as would be required by this provision, and achieve contract savings not less than previous *Arleigh Burke*-class multiyear procurement contracts.

Block buy contracts for Ship-to-Shore Connector program (sec. 123)

The committee recommends a provision that would permit the Navy to enter into one or more block buy contracts for up to 10 Ship-to-Shore Connector class craft.

The committee notes the Navy has stated this proposal would promote industrial base stability, production efficiencies, and cost savings when compared to a base contract plus options via annual procurement cost estimate.

Consistent with committee precedent and other multi-year procurement authorities, this provision would authorize up to the number of craft that would be procured in the future years defense program.

Procurement authorities for John Lewis-class fleet replenishment oiler ships (sec. 124)

The committee recommends a provision that would allow the Secretary of the Navy to enter into one or more contracts for

the procurement of not more than eight *John Lewis*-class fleet replenishment oiler ships.

Tomahawk cruise missile capability on FFG-62 class vessels (sec. 125)

The committee recommends a provision that would require the Secretary of the Navy to ensure FFG-62 class vessels are capable of carrying and employing Tomahawk cruise missiles.

The committee notes the Navy is developing and fielding "virtualized" weapons control system technology, including systems to support its vision for Tomahawk-capable unmanned surface vessels. The committee believes the FFG-62 class should include optimized Tomahawk Weapons System hardware and software, which would both provide a necessary lethality increase for the FFG-62 class and serve as a key technical risk reduction advance in realizing Tomahawk-capable USVs. The committee believes that jumping directly to Tomahawk-capable USVs without first having ensured that the FFG-62 class is Tomahawk-capable presents excessive technical risk in such USV programs.

Navy shipbuilding workforce development initiative (sec. 126)

The committee recommends a provision that would require the incorporation of a Navy shipbuilding workforce development initiative in certain contracts.

The committee notes that a Department of Defense report in response to section 1029 of the William M. (Mac) Thornberry National Defense Authorization Act for Fiscal Year 2021 (Public Law 116-283) found, "The [Navy] shipbuilding industry faces a significant challenge in achieving and sustaining required workforce levels, and the industrial base today lacks the resiliency and bench strength to meet required demand. A consistent demand for skilled labor is essential and must be accomplished through shipbuilding policies that span 10-to-20-year periods...Current efforts to establish, accelerate, and grow the labor workforce are imperative to shipbuilding execution and must be adequately resourced, prioritized, scaled, and maintained over the next 20+ years. Workforce investments must focus on enterprise vice single vendor shortfalls. The shipbuilding enterprise must reimagine traditional approaches to manpower and bridge disconnects between school-based education and defense skillsets."

The committee shares the concerns raised in this report regarding the ability of the Navy shipbuilding workforce to meet current and projected demands over the next 20 years. In the committee's view, the situation has not improved since that

report. Accordingly, the committee supports this provision as a bold initiative that could provide an additional avenue to ensure approved Navy workforce development initiatives receive adequate funding.

Extension of prohibition on availability of funds for Navy port waterborne security barriers (sec. 127)

The committee recommends a provision that would extend the prohibition on availability of funds for purchasing Navy waterborne security barriers.

The committee is encouraged by the transition of the waterborne security barrier (WSBs) program to the Program Executive Office for Ships, with competitive solicitations planned for existing and next generation WSBs. The committee continues to support full-and-open competition for WSBs to the maximum extent practicable.

Limitation on retirement of E-6B aircraft (sec. 128)

The committee recommends a provision that would prohibit the Secretary of the Navy from taking any action that would prevent the Navy from maintaining the fleet of E-6B aircraft in the configuration and capability in effect as of the date of the enactment of this Act, until the date on which the Chair of the Joint Requirements Oversight Council certifies in writing to the congressional defense committees that the replacement capability for the E-6B would be fielded at the same time or before the retirement of the E-6B, and would result in equal or greater capability available to the commanders of the combatant commands.

The committee is concerned that the current configuration of the E-6B to support the role of the National Airborne Operations Center would be retired prematurely before an equivalent capability is fielded.

EA-18G aircraft (sec. 129)

The committee recommends a provision that would require: (1) The Secretary of the Navy to retain rather than retire the EA-18G aircraft; (2) The Secretary of the Navy to transfer EA-18Gs in expeditionary electronic attack squadrons to the Navy Reserve Air Forces; (3) The Secretary of the Air Force to designate one or more units from the Air National Guard or Air Force Reserve to join with the Navy Reserve to establish joint service expeditionary, land-based electronic attack squadrons to match the capability of such squadrons currently assigned to

Naval Station Whidbey Island, Washington; and (4) The Secretary of the Navy and the Secretary of the Air Force to submit a report on the plan of the Secretaries to implement this section to the congressional defense committees, not later than 120 days after the date of the enactment of this Act.

The committee is disappointed that the Navy would spring a decision to eliminate the expeditionary electronic warfare aircraft squadrons, with little or no coordination with the Air Force or the combatant commanders who rely extensively on these squadrons for electronic warfare support. Establishing joint-service units in the reserve components, modeled on the current operations of the expeditionary EA-18G squadrons, would modernize the reserve components, preserve similar capability to provide land-based electronic warfare capability to the combatant commanders, and save costs.

Block buy contracts for CH-53K heavy lift helicopter program (sec. 130)

The committee recommends a provision that would permit the Navy to enter into one or more block buy contracts for the CH-53K program across fiscal years 2023 and 2024.

SUBTITLE D—AIR FORCE PROGRAMS

Prohibition on certain reductions to inventory of E-3 airborne warning and control system aircraft (sec. 141)

The committee recommends a provision that would authorize the Secretary of the Air Force to retire certain E-3 Airborne Warning and Control System (AWACS) aircraft. The committee is concerned that with the proposed Air Force divestment of E-3 AWACS, there will be a significant gap in airborne command and control capability to support the joint force. The committee understands, however, that the current fleet has become prohibitively expensive to maintain. While the Air Force should have had more foresight about the degradation of the E-3 and should have taken steps to correct the situation a decade ago, the committee is encouraged that the Air Force is finally moving to modernize this capability. In the committee's view, however, the Air Force's timeline for fielding a replacement capability is not fast enough to justify divestment of 15 E-3 AWACS immediately without a solid plan to replace that essential capability.

Therefore, the committee recommends a provision that would prohibit the Air Force divesting more than five E-3 AWACS aircraft, until the Air Force achieves the following milestones:

(1) When the Air Force Senior Acquisition Executive approves a detailed acquisition strategy and briefs that strategy to the congressional defense committees, the Secretary could retire five additional aircraft, for a total of 10 aircraft.

(2) When the Air Force signs a contract to purchase an aircraft to replace the E-3 aircraft being retired, and briefs the contracted acquisition plan to the congressional defense committees, the Secretary could retire five additional aircraft, for a total of 15 aircraft.

The provision would not authorize additional E-3 divestments beyond 15 aircraft.

Modification of inventory requirements for air refueling tanker aircraft (sec. 142)

The committee recommends a provision that would allow the Air Force to retire 13 KC-135 tankers in addition to the KC-135 retirements permitted in previous legislation.

Prohibition on reductions to inventory of F-22 Block 20 aircraft (sec. 143)

The committee recommends a provision that would prohibit the retirement of F-22 Block 20 aircraft and relocation of the F-22 Block 30 until the Secretary of the Air Force submits: (1) A detailed written plan for accomplishing formal training for F-22 aircrew that would avoid any degradation in readiness or reduction in combat capability; and (2) An explanation for the future laydown of the F-22 Block 30 and how that supports the Air Force's mission.

The Air Force has proposed to retire all F-22 Block 20 aircraft in fiscal year 2023. These Block 20 aircraft are now being used in training F-22 aircrews. The committee is concerned the proposed divestment of F-22 Block 20 aircraft may hinder the ability of the Air Force to train F-22 aircrews. The absence of the F-22 Block 20 aircraft would require that the Air Force divert frontline F-22 aircraft from other missions to support training activities outside the normal duties of combat-coded units. The concern is that this diversion would have a deleterious effect on the combat-coded units, leading to a net reduction in combat capability.

The committee understands that the Air Force subsequently intends to backfill units operating F-22 Block 20 aircraft with

F-22 Block 30 aircraft temporarily assigned to other fighter squadrons. The committee is also concerned that the reallocation of Block 30 aircraft may leave squadrons with diminished combat effectiveness, exacerbate aircraft availability concerns, and further complicate aircraft squadron maintenance issues.

SUBTITLE E—DEFENSE-WIDE, JOINT, AND MULTISERVICE MATTERS

Parts for commercial derivative aircraft and engines and aircraft based on commercial design (sec. 151)

The committee recommends a provision that would require the Secretary of the Air Force and the Secretary of the Navy to fully implement best practices used by the commercial aviation industry for considering sources of spare parts supply. This provision would require the Secretaries to include Federal Aviation Administration (FAA)-certified airworthy used, overhauled, reconditioned, or remanufactured commercial common parts in their supply chain for all Department of Defense (DOD) commercial derivative aircraft and engines, as well as in aircraft that are based on commercial design. The FAA-certified part suppliers to the Department would be required to meet the requirements of part 145 of title 14, Code of Federal Regulations, and would be considered based on price and quality. The committee recognizes that the DOD already purchases FAA-certified used parts for many platforms, but believes expanding the practice across all relevant fleets could generate significant operations and maintenance savings and increase the availability of spare parts.

Assessment and strategy for fielding counter unmanned aerial systems swarm capabilities (sec. 152)

The committee recommends a provision that would require the Secretary of Defense to conduct an assessment and develop and implement a strategy to field systems to counter threats posed by unmanned aerial system (UAS) swarms. The proliferation of unmanned aerial systems and the ability to operate them in swarms poses a significant threat to the Joint Force. The committee applauds the Department of Defense's focus on rapid development and fielding of counter-UAS capabilities, but seeks to accelerate fielding of capabilities that could counter UAS swarms.

Treatment of nuclear modernization and hypersonic missile programs within Defense Priorities and Allocations System (sec. 153)

The committee recommends a provision that would express the sense of the Senate that deterrence requires a credible nuclear force and robust missile forces, and that the Secretaries of Defense and Energy should leverage all available tools to reduce the risk of schedule delays in nuclear modernization and hypersonic missile programs. The provision would also include reporting and certification requirements.

Government Accountability Office assessment of efforts to modernize propulsion systems of the F-35 aircraft (sec. 154)

The committee recommends a provision that would require the Comptroller General of the United States to conduct a review of the business case analysis that the F-35 Joint Program Office is conducting on possible alternatives for upgrading F-35 propulsion systems.

BUDGET ITEMS

ARMY

Southern Command hyperspectral imagery sensors

The budget request included \$21.4 million in line number 19 of Aircraft Procurement, Army (APA) for Multi Sensor Airborne Recon.

The committee recognizes that U.S. Southern Command (SOUTHCOM) has employed hyperspectral imagery (HSI) sensors effectively in detecting and identifying illegal narcotic production and transnational criminal organization activity and supports building SOUTHCOM's HSI sensor capability.

Therefore, the committee recommends an increase of \$5.2 million in line number 19 of APA for hyperspectral imagery sensors for SOUTHCOM.

Increase for inflation effects

The committee recommends an increase of \$13.0 billion for inflation effects, of which \$678.9 million is distributed among the Army Procurement accounts.

Increase for munitions

The committee recommends an increase of \$2.6 billion for acceleration of munitions production and capacity expansion, of which \$1.4 billion is for Missile Procurement, Army programs, to include Hellfires, Joint Air-to-Ground Missiles, Javelins, Guided Multiple Launch Rocket Systems, High Mobility Artillery Rocket Systems, Army Tactical Missile Systems, Stinger refurbishment, and advanced procurement for critical munition components.

Paladin Integrated Management

The budget request included \$493.0 million in line number 7 of Procurement of Weapons and Tracked Combat Vehicles (WTCV) for Paladin Integrated Management (PIM).

The committee recognizes the critical importance of modernizing the Paladin as the Army's only armored self-propelled howitzer within Armored Brigade Combat Teams. Returning to a higher planned production rate and quantity permits the Army to stay on schedule to field two battalions per year and avoid a nearly 20 percent per-unit cost increase at the reduced fiscal year 2023 budget request quantity.

Accordingly, the committee recommends an increase of \$195.0 million in line number 7 of WTCV for PIM.

Army unfunded requirements

In accordance with section 222a of title 10, United States Code, the Chief of Staff of the Army and the combatant commanders each submitted a list of unfunded requirements. The committee recommends an additional increase of \$864.6 million for items on these unfunded requirements list.

U.S. Africa Command physical security systems

The budget request included \$102.6 million in line number 166 of Other Procurement, Army (OPA) for Physical Security Systems.

The committee notes that U.S. Africa Command (AFRICOM) identified force protection of deployed forces as an unfunded priority.

Therefore, the committee recommends an increase of \$14.2 million in OPA line number 166 for AFRICOM physical security systems and an increase of \$1.3 million in OPA line number 54, Base Support Communications, for force protection investments.

Tactical Intelligence Targeting Access Node realignment of funds

The budget request included \$84.8 million in line number 62 of Other Procurement, Army (OPA) for Tactical Intelligence Targeting Access Node (TITAN).

The committee has been informed that updated program estimates require realignment of funds to TITAN Research, Development, Test, and Evaluation, Army (RDA) and Distributed Common Ground Systems-Army (DCGS-A) procurement.

Therefore, the committee recommends a decrease of \$84.8 million in line number 62 of OPA as ahead of need for TITAN procurement.

The committee recommends an increase of \$50.9 million in RDA PE 65148A for TITAN prototype development.

The committee recommends an increase of \$19.7 million in OPA line number 66 for DCGS-A procurement.

Terrestrial Layer System - Brigade Combat Team realignment of funds

The budget request included \$88.9 million in line number 64 of Other Procurement, Army (OPA) for Terrestrial Layer Systems (TLS).

The committee has been informed that the Army modified its plan to build an additional three prototypes to complete the equipment set for the first brigade, which will support operational evaluations and development and inform the rapid fielding decision.

Therefore, the committee recommends a decrease of \$38.0 million in line number 68 of OPA and an increase of \$38.0 million in Research, Development, Test, and Evaluation, Army PE 34270A Electronic Warfare Development for Terrestrial Layer System - Brigade Combat Team.

Watercraft Modernization Service Life Extension Program

The budget request included \$47.9 million in line number 151 of Other Procurement, Army (OPA) for Army Watercraft.

Army watercraft are essential to the effective conduct of dynamic force employment in competition and contested logistics in conflict.

The committee recommends an increase of \$14.1 million in OPA line number 151 for the Watercraft Service Life Extension Program.

NAVY

Navy unfunded requirements

In accordance with section 222a of title 10, United States Code, the Chief of Naval Operations of the Navy, the Commandant of the Marine Corps, and the combatant commanders each submitted a list of unfunded requirements. The committee recommends an additional increase of \$2.2 billion for items on these unfunded requirements list.

Increase for inflation effects

The committee recommends an increase of \$13.0 billion for inflation effects, of which \$2.0 billion is distributed among the Navy and Marine Corps Procurement accounts.

Increase for munitions

The committee recommends an increase of \$2.6 billion for acceleration of munitions production and capacity expansion, of which \$675.4 million is for Weapons Procurement, Navy and Procurement, Marine Corps programs, to include the Standard Missile-6, Long Range Anti-Ship Missile, Advanced Anti-Radiation Guided Missile-Extended Range, Mk54, and Naval Strike Missile.

Hypersonic test facility

The budget request included \$2.0 million in line number 22 of Weapons Procurement, Navy (WPN) for Weapons Industrial Facilities.

The committee believes that further investment in hypersonic test infrastructure is vital to the rapid fielding of emerging hypersonic weapons technologies.

Therefore, the committee recommends an increase of \$25.0 million in line 22 of WPN for a hypersonic test facility.

Surface combatant supplier development

The budget request included \$618.4 in line number 11 of Shipbuilding and Conversion, Navy (SCN) for advance procurement for the DDG-51 destroyer program.

The committee notes that elements of the surface combatant industrial base continue to struggle to support the demands of the Navy's future shipbuilding plan.

Therefore, the committee recommends an increase of \$250.0 million in line number 11 of SCN for surface combatant supplier development efforts, which may include the purchase of long lead time material.

LHA-9 quantity adjustment

The budget request included \$1.1 billion in line number 20 of Shipbuilding and Conversion, Navy (SCN) for LHA Replacement. The budget documentation also includes a quantity of one for LHA-9.

This is in direct violation of section 126 of the William M. (Mac) Thornberry National Defense Authorization Act for Fiscal Year 2021 (Public Law 116-283), which stated that the quantity shown for Navy vessels would be shown in the year that the Congress authorizes and appropriates funding to buy a vessel. The Congress authorized construction and appropriated funds for construction of LHA-9 in fiscal year 2020.

Therefore, the funding tables have been adjusted to reflect that the Navy budget documentation incorrectly included a "one" in the quantity column.

Auxiliary personnel lighters barracks craft

The budget request included \$68.3 million in line number 29 of Shipbuilding and Conversion, Navy (SCN) for Service Craft.

The committee notes small Auxiliary Personnel Lighters (APL) barracks craft provide critical berthing and messing facilities for sailors when their ships are in port for maintenance availabilities and inter-deployment training cycles. Thirteen of the 17 existing APL craft were built between 1944 and 1946. They do not meet safety standards, are not dual gender compatible, and lack modern communications capabilities. Additional new APL craft will greatly improve sailors' quality of life and improve safety during availabilities.

Therefore, the committee recommends an increase of \$23.0 million to procure one additional APL in SCN line number 29.

Next Generation Surface Search Radar

The budget request included \$102.8 million in line number 72 of Other Procurement, Navy (OPN), for items less than \$5 million, including \$44.1 million to upgrade existing radars to the AN/SPS-73(V)18 Next Generation Surface Search Radar (NGSSR) configuration. This upgrade leads to having better readiness of Navy radar systems.

The committee recommends an additional \$58.5 million in OPN line 72 to accelerate upgrades of Navy radars to the NGSSR configuration.

Sonobuoys

The budget request included \$291.7 million in line number 94 of Other Procurement, Navy (OPN), to purchase sonobuoys. In

recent years, the Navy has been having to expend sonobuoys at higher-than-historical rates to support peacetime operations.

The committee believes that the Navy should increase sonobuoy production and recommends an increase of \$40.0 million in line number 94 of OPN for that purpose.

AIR FORCE

Air Force unfunded requirements

In accordance with section 222a of title 10, United States Code, the Chief of Staff of the Air Force, the Chief of Space Operations, and the combatant commanders each submitted a list of unfunded requirements. The committee recommends an additional increase of \$2.3 billion for items on these unfunded requirements list.

F-35 realignment of funds

The budget request included \$594.9 million in line number 4 of Aircraft Procurement, Air Force (APAF) for F-35 advance procurement.

The committee has been informed that \$115.0 million of this advance procurement funding for this program should have been requested in the full funding line.

Therefore, the committee recommends a decrease of \$115.0 million in line number 4 of APAF and a corresponding increase of \$115.0 million in line number 3 of APAF for F-35 full funding.

UH-1 Replacement / MH-139 Grey Wolf

The budget request included \$156.2 million in line 12 of Aircraft Procurement, Air Force (APAF), to purchase five MH-139 helicopters. These helicopters will replace the U.S. Air Force fleet of UH-1N aircraft to address capability gaps in speed, range, endurance, payload capacity, and aircraft self-protection. The committee believes that the Air Force should replace the UH-1N fleet expeditiously.

Therefore, the committee recommends an increase of \$100.0 million in line number 12 of APAF to purchase three additional aircraft.

Combat Rescue Helicopter

The budget request included \$707.0 million in line number 13 of Aircraft Procurement, Air Force (APAF), to buy 10 Combat Rescue Helicopters (HH-60W). The Air Force has announced plans

to truncate the HH-60W program with the fiscal year 2023 purchases. That would leave the Air Force roughly 40 helicopters short of its original inventory objective for combat rescue helicopters.

The committee is concerned that the Air Force is ignoring the fact that these aircraft are already high demand/low density assets, and that buying fewer will only exacerbate the situation. Since the Air Force has not provided any analysis that would support the planned reduction in inventory, the committee urges the Department to restore aircraft quantities originally planned.

The committee recommends an increase of \$350.0 million in line number 13 of APAF to buy an additional 10 HH-60W helicopters.

E-11 Battlefield Airborne Communications Node realignment of funds

The budget request included \$0.4 million in line number 18 of Aircraft Procurement, Air Force (APAF) for the E-11 Battlefield Airborne Communications Node (BACN).

The committee has been informed that funding for this program should have been requested in a different line number.

Therefore, the committee recommends a decrease of \$0.4 million in APAF line number 18 and a corresponding increase of \$0.4 million in APAF line number 64 for Other Aircraft for the E-11 BACN.

B-52 Crypto Modernization realignment of funds

The budget request included \$4.3 million in line number 24 of Aircraft Procurement, Air Force (APAF) for B-52 Crypto Modernization upgrade spares.

The committee has been informed that funding for this program should have been requested in a different line number.

Therefore, the committee recommends a decrease of \$4.3 million in line number 24 of APAF and a corresponding increase of \$4.3 million in line number 69 of APAF.

B-52 spares realignment of funds

The budget request included \$2.7 million in line number 24 of Aircraft Procurement, Air Force (APAF) for B-52 VLF/LF spares.

The committee has been informed that funding for this program should have been requested in a different line number.

Therefore, the committee recommends a decrease of \$2.7 million in line number 24 of APAF and a corresponding increase of \$2.7 million in line number 69 of APAF.

Air Force cryptographic modernization

Elsewhere in this report, the committee describes a recommended provision that would require the Department of Defense to provide a separate budget display that provides a transparent aggregation of the status of cryptographic system modernization. To assist in addressing the urgent need to fund the replacement of obsolete cryptography, the committee recommends an increase of \$94.4 million for Air Force cryptographic modernization.

The committee recommends the following increases for cryptographic modernization:

- (1) \$3.9 million in Research, Development, Test, and Evaluation, Air Force (RDAF) for PE 65278F for AC-130J;
- (2) \$2.1 million in line number 63 of Aircraft Procurement, Air Force (APAF) for AC-130J;
- (3) \$4.5 million in RDAF for PE 11126F for B-1B;
- (4) \$5.0 million in RDAF for PE 11113F for B-52;
- (5) \$2.6 million in RDAF for PE 41132F for C-130J;
- (6) \$1.1 million in RDAF for PE 41318F for CV-22;
- (7) \$700.0 thousand in RDAF for PE 32015F for E-4B;
- (8) \$4.8 million in RDAF for 27133F for F-16 Pre Blk;
- (9) \$8.1 million in line number 29 of APAF for F-16 Pre Blk;
- (10) \$2.0 million in RDAF for PE 27133F for F-16 Post Blk;
- (11) \$20.7 million in line number 51 of APAF for KC-135;
- (12) \$4.8 million in RDAF for PE 41218F for KC-135;
- (13) \$6.7 million in line number 49 of APAF for C-130H;
- (14) \$5.9 million in line number 51 of APAF for KC-135 (ROBE B-Kits); and
- (15) \$21.6 million in line number 11 of Procurement, Space Force for National Security Space Systems.

C-5 maintenance training simulator realignment of funds

The budget request included \$18.0 million in line number 35 of Aircraft Procurement, Air Force (APAF) to create a new C-5 post-production support line.

The committee has been informed that funding for this program should have been requested in a different line number.

Therefore, the committee recommends a decrease of \$18.0 million in APAF line number 35 and a corresponding increase of \$18.0 million in APAF line number 84.

C-5 training systems realignment of funds

The budget request included \$12.4 million in line number 35 of Aircraft Procurement, Air Force (APAF) for C-5 training systems.

The committee has been informed that funding for this program should have been requested in a different line number.

Therefore, the committee recommends a decrease of \$12.4 million in APAF line number 35 APAF and a corresponding increase of \$12.4 million in line number 64 of APAF.

Aircraft efficiency modifications realignment of funds

The budget request included \$42.5 million in Research, Development, Test, and Evaluation, Air Force (RDAF) for PE 64858F Tech Transition Program.

The committee has been informed that funding for this program should have been requested in a different account.

Therefore, the committee recommends a decrease of \$42.5 million in RDAF PE 64858F and a corresponding increase of \$5.5 million in line number 36 of Aircraft Procurement, Air Force (APAF), \$17.5 million in line number 49 of APAF, and \$19.5 million in line number 51 of APAF.

T-38A Ejection Seat Upgrades

The budget request included \$111.7 million for T-38 aircraft in line number 42 of Aircraft Procurement, Air Force (APAF).

The committee recognizes that, although the T-38A is an aging aircraft, it remains the workhorse of the pilot training fleet. Because of this, the committee understands that T-38A ejection seat upgrades remain essential for the safety of pilot trainees and instructors. An upgrade to the existing seats for T-38A would allow the Air Force to meet modern safety requirement for all Air Force pilots.

Therefore, the committee recommends an increase of \$9.2 million in line number 42 of APAF to upgrade of T-38A aircraft ejection seats.

HC/MC 130-J modifications realignment of funds

The budget request included \$139.0 million in line number 63 of Aircraft Procurement, Air Force (APAF) for HC/MC-130 Modifications.

The committee has been informed that \$20.0 million should have been requested in a different line number.

Therefore, the committee recommends a decrease of \$20.0 million in line number 63 of APAF and a corresponding increase of \$20.0 million in line number 85 of APAF.

RC-135 Navigation Updates

The budget request included \$212.8 million in Aircraft Procurement, Air Force (APAF) for line number 53 for RC-135.

The committee recognizes the need to bring the RC-135 fleet into compliance with mandates to modernize GPS and other navigation capabilities, and to address navigation system obsolescence by replacement. It is the committee's view that these replacement actions are needed to ensure the fleet operates independently without needing externally derived positioning, navigation, and timing information.

Therefore, the committee recommends an increase of \$39.4 million in line number 53 of APAF to conduct these key navigation updates.

RC-135 spares

The budget request included \$1.0 billion in line number 69 of Aircraft Procurement, Air Force (APAF), for initial spares and repair parts.

The committee believes that additional effort is needed to provide proper support for the RC-135 fleet for GPS and other equipment to ensure the fleet operates independently without needing externally derived position, navigation, and timing information for future operations.

Therefore, the committee recommend an increase of \$27.3 million in line number 69 of APAF for RC-135 spares.

Increase for inflation effects

The committee recommends an increase of \$13.0 billion for inflation effects, of which \$1.0 billion is distributed among the Air Force and Space Force Procurement accounts.

Air-Launched Rapid Response Weapon realignment of funds

The budget request included \$46.6 million in line 6 of Missile Procurement, Air Force (MPAF) for the AGM-183A Air-Launched Rapid Response Weapon.

The Air Force has requested that these funds be realigned to Research, Development, Test, and Evaluation, Air Force (RDAF) to mitigate risk and provide the ability to incorporate flight test discoveries.

Therefore, the committee recommends a decrease of \$46.6 million in line 6 of MPAF, and a corresponding increase of \$46.6 million in PE 64033F in RDAF for Hypersonics Prototyping.

Increase for munitions

The committee recommends an increase of \$2.6 billion for acceleration of munitions production and capacity expansion, of which \$430.0 million is for Missile Procurement, Air Force programs, to include the Joint Air-to-Surface Standoff Missile, Air Intercept Missile-9X, and Advanced Medium-Range Air-to-Air Missile.

Resilient Missile Warning Missile Tracking - Space Development Agency Launch realignment of funds

The budget request included \$390.6 million in Research, Development, Test, and Evaluation, Space Force (RDSF) for PE 1206448SF Resilient Missile Warning Missile Tracking - Integrated Ground Segment.

The committee has been informed by the Air Force that updated program estimates require realignment of funds.

Therefore, the committee recommends a decrease of \$200.0 million in RDSF PE 1206448SF and a corresponding increase of \$200.0 million in line 20 of Procurement, Space Force for Space Development Agency Launch.

Worldwide Joint Strategic Communications realignment of funds

The budget request included \$7.1 million in line number 23 of Other Procurement, Air Force (OPAF), Strategic Command and Control, for the Worldwide Joint Strategic Communications program.

The committee has been informed that funding for this program should have been requested in a different account.

Therefore, the committee recommends a decrease of \$7.1 million in OPAF line 23 and an increase of \$7.1 million in Operation and Maintenance, Air Force SAG 12A Global Command, Control, Communications, and Intelligence and Early Warning.

DEFENSE WIDE

Standard Missile-3 Block IIA

The budget request included \$338.0 million in line number 35 of Procurement, Defense-wide (PDW) to procure 10 Standard Missile-3 (SM-3) Block IIA missiles.

The committee recommends an increase of \$252.0 million in PDW line number 35 for eight additional SM-3 Block IIA missiles and \$63.0 million for SM-3 Block IIA test equipment to increase production capacity to 36 missiles per year.

Project Spectrum

The budget request included \$62.3 million in line number 50 of Procurement, Defense-wide (PDW) for the Mentor Protégé Program.

The committee supports ongoing efforts of the Office of Small Business Programs to create and maintain Project Spectrum, a comprehensive platform providing small businesses with cybersecurity information, tools, training, and resources at no cost to them.

The committee remains concerned that small businesses struggle with responding to evolving government cybersecurity requirements with limited staff and few resources. Added to that challenge, these small businesses are also largely unaware of or given opportunities to understand foreign ownership, control, influence, and investment (FOCI) risks to their businesses and their intellectual property. A big part of combatting FOCI risk is education.

Therefore, the committee recommends an increase of \$30.0 million in line number 50 of PDW for the Mentor Protégé Program for continued development of Project Spectrum for small business cybersecurity education, as well as FOCI training, education, tools, and resources.

Maritime scalable effects

The budget request included \$151.2 million in Procurement, Defense-wide (PDW) line number 70 Ordnance Items less than \$5 million.

The committee supports prioritization of resources to address capability gaps, particularly those that ensure U.S. Special Operations Forces maintain superiority relative to long-term strategic competitors, and notes that the Commander, U.S. Special Operations Command (SOCOM), has identified the

acceleration of maritime scalable effects as an unfunded requirement.

Therefore, the committee recommends an increase of \$3.7 million in PDW line number 70 for acceleration of SOCOM maritime scalable effects.

Maritime Precision Engagement realignment of funds

The budget request included \$82.6 million in Research, Development, Test, and Evaluation, Defense-wide (RDDW) for PE 1160483BB Maritime Systems. The budget request also included \$85.6 million in line number 74 of Procurement, Defense-wide (PDW) for Combatant Craft Systems.

The committee notes that U.S. Special Operations Command identified executability issues with the fielding of Maritime Precision Engagement capabilities as planned in fiscal year 2023 and requested a realignment of \$5.4 million from procurement to research, development, test, and evaluation.

Therefore, the committee recommends an increase of \$5.4 million in RDDW for PE 1160483BB and a corresponding decrease of \$5.4 million in line number 74 of PDW for Combatant Craft Systems.

Increase for inflation effects

The committee recommends an increase of \$13.0 billion for inflation effects, of which \$208.3 million is distributed among the Defense-wide Procurement accounts.

ITEMS OF SPECIAL INTEREST

Air Force management of the airborne battle manager career field

The budget request included a plan to retire seven more Joint Surveillance and Target Attack Radar System (JSTARS) aircraft in fiscal year 2023. The Air Force intends to replace the capabilities of the JSTARS fleet with the Advanced Battle Management System (ABMS). In the past few years, the Air Force has moved the ABMS from a largely theoretical and development status to one involving the acquisition of specialized equipment and more real-world testing under an agile acquisition process.

With the retirement of more JSTARS aircraft, and absent senior leader attention to the cadre of air battle managers, the committee is concerned that these highly skilled crews will likely be spread throughout the Air Force to cover other manning priorities. The committee believes that the Air Force needs to begin to shift these highly skilled personnel now to assume

duties that will need their specialized talents as the Air Force transitions to the ABMS program.

Therefore, the committee directs the Secretary of the Air Force to develop a plan for migrating the air battle management crews of JSTARS to provide similar expertise as members of the crews that will operate the ABMS. The committee directs the Secretary to provide a report on that plan to the congressional defense committees with the submission of the fiscal year 2024 budget request.

Anthropomorphic female body armor chest plate

The committee is aware of the Army's efforts to improve the fit of personal protective gear for women. The committee understands the Army continues to modify the cut and sizing of current hard armor plates in a manner designed to improve form, fit, and function; reduce pain; and increase mobility. Further, the committee understands the Army is in the midst of an anthropomorphic study for body armor modernization. The committee encourages the Army to accelerate its development of alternative materials while continuing to improve hard armor plates to meet a female warfighter's unique form and fit requirements while retaining critical ballistic properties. The committee directs the Secretary of the Army to provide a briefing to the committee, not later than December 1, 2022, that provides an update on the Army's efforts to accelerate development of anthropomorphic armor for female servicemembers.

Armored Brigade Combat Team modernization

The committee notes with concern the substantially reduced investment proposed in the fiscal year 2023 budget request for modernization of armored combat vehicles (ACV) that comprise the Army's Armored Brigade Combat Teams (ABCT). The proposed level of funding would drive a modernization rate of half an ABCT per year, equating to modernizing the Army's 16 ABCT's once every 32 years. Additionally, the substantial quantity reductions requested in the budget drive up the per-unit cost of ACVs between 15 and 40 percent.

The committee directs the Secretary of the Army to provide a briefing to the congressional defense committees, not later than February 20, 2023, on a long-term strategy for the modernization of ACVs within the Army's ABCTs and Army pre-positioned stocks (APS). The strategy shall cover a 16-year period beginning in fiscal year 2024 and shall include the

projected modernization levels of ACVs in each ABCT and APS and the anticipated ACV production quantities by year to achieve the projected modernization level. Additionally, the strategy shall include cost-per-quantity estimates for ACVs in fiscal year 2024 at the rate of one ABCT per year and at the rate proposed in the budget request for fiscal year 2024.

Army autonomy synchronization and oversight

The committee recognizes that artificial intelligence, machine learning, and autonomy are critical to the Army's highest priority modernization efforts. The breadth of ground and air capabilities the Army is developing that seek to leverage autonomy, autonomy-aided, minimally-manned, optionally-manned, robotic, or other autonomous capabilities and effects is extensive. The committee notes these capabilities crosscut Program Executive Offices and Cross Functional Teams, and is concerned that these efforts lack unified direction and oversight within the Department of the Army that will ensure required integration and commonality, and prevent unnecessary duplication.

The committee directs the Secretary of the Army to provide a briefing to the congressional defense committees not later than February 28, 2023, that describes how the Department aligns and synchronizes across the Army enterprise all aspects of artificial intelligence, machine learning, and other autonomy efforts, to include research, development, testing, procurement, operationalization, and sustainment.

Army next-generation night vision fielding and industrial base strategy

The committee supports the Department of the Army and its commitment to deliver next-generation night vision and situational awareness capabilities such as the Enhanced Night Vision Goggle-Binocular (ENVG-B) and the Integrated Visual Augmentation System (IVAS). However, the committee is concerned about the Army's decision to terminate procurement of the ENVG-B before the IVAS is fully certified to meet operational requirements. This decision creates risk for soldiers and, according to the Army's own unfunded priority list, will decrease soldier survivability. Additionally, the committee is concerned that halting ENVG-B production disrupts the supporting supply chains. The committee is concerned that the Army is not taking into consideration the long-term industrial base consequences of their decision and assuming unnecessary risk. As such, the committee directs the Secretary of the Army to provide

a briefing to the Committees on Armed Services of the Senate and the House of Representatives, not later than January 31, 2023, on the Army's plan to ensure soldiers continue to have access to next-generation night vision systems and to sustain the night vision manufacturing industrial base.

Assessment of energetics production requirements and capacity

The committee is concerned about the ability of the Department of Defense to source surge requirements for energetics in the event of a major conflict with strategic competitors. The committee notes that the Army has a 15-year plan to modernize organic ammunition production infrastructure but that effort may only help the Department meet the current demand for energetics and not surge requirements.

Accordingly, the Secretary of Defense, in coordination with the Secretary of the Army as the Department of Defense executive agent for ammunition and explosives, shall complete an assessment of the ability of the defense industrial production base to meet steady-state and surge requirements for propellants and explosives, no later than January 20, 2023. The assessment shall address: (1) Current and projected steady-state and surge requirements for energetics; (2) Basis of the requirements for energetics; (3) Current and projected energetics production capacity; (4) Plan to modernize the energetics production base; (5) Opportunities to accelerate modernization of the energetics production base; (6) Options for increasing production capacity to meet surge requirements for energetics; and (7) Risks within the energetics production enterprise and plans to mitigate them. The Secretary shall provide a briefing of the assessment to the congressional defense committees no later than February 1, 2023.

Assessment of Navy cruiser modernization program

The committee is concerned about the Navy's plan to retire five recently modernized *Ticonderoga*-class cruisers over the next 5 years, including one cruiser (*USS Vicksburg*) in fiscal year 2023. Through fiscal year 2021, the Navy has spent more than \$3.0 billion on the cruiser modernization program, also known as the "2-4-6" program, and estimates another \$407.0 million in total additional funding is required to complete the modernization of these five ships and return them to the fleet.

The Navy's initial plan for the 2-4-6 program included placing 11 cruisers incrementally into a reduced operating status for maintenance and modernization in order to extend the ships' service lives to 40 years and provide the ships with a significant capability upgrade.

However, under the Navy's current plan, these ships will be decommissioned with between 30 and 36 years of service. The committee is concerned that the Navy invested significantly in modernizing cruisers that the fleet will be given little to no opportunity to use operationally.

Moreover, the committee is concerned that these early cruiser decommissionings will result in further reduction of the Navy's surface combatant fleet, which will exacerbate the stress and operational tempo of the remaining ships and their crews.

Given the significant potential lost investment, as well as the implications on the Navy's readiness and future shipbuilding plans, the committee directs the Comptroller General of the United States to assess:

(1) The expected benefits and cost savings associated with the 2-4-6 program and the analysis the Navy used to support its plan;

(2) The contracting strategy used to support the 2-4-6 program;

(3) Cost, schedule, and performance challenges in executing the 2-4-6 program;

(4) Costs, benefits, and risks of early decommissioning of cruisers in light of the 2-4-6 program performance to date; and

(5) Any additional issues that the Comptroller General may feel is appropriate.

The committee directs the Comptroller General to provide a briefing to the committee, not later than December 1, 2022, on the preliminary findings of its assessment, with a report to follow.

Assessment of rocket motor production for preferred advanced munitions

The committee is concerned about the significant lead time, often 2 years or more, it takes to produce rocket motors for preferred advanced munitions of all military services. Further, the committee notes that single sources of rocket motors for advanced munitions present a significant risk to timely procurement of preferred advanced munitions.

Accordingly, the Secretary of Defense, in coordination with the Secretaries of the military departments, shall conduct an assessment that includes analysis of: (1) The capacity of the defense industrial base to meet steady-state and wartime surge requirements for production of rocket motors; (2) Why rocket motors can take up to 2 years or more to procure; (3) Options for accelerating the production of rocket motors; (4) Options to increase production capacity to meet wartime surge requirements;

(5) The risk of having single sources for rocket motors; and (6) Options to mitigate single sources of rocket motors for preferred advanced munitions. The Secretary shall brief the Committees on Armed Services of the Senate and House of Representative on the results of the assessment not later than January 20, 2023.

Aviation Status Dashboard

The committee is aware of a capabilities gap within the Army National Guard aviation enterprise related to automation systems that reduce air crew readiness and efficiency. The committee is aware that multiple National Guard Army aviation programs have purchased and deployed the Aviation Status Dashboard platform to successfully mitigate the capabilities gap and increase aviation program readiness and efficiency. The committee is also aware that the Aviation Status Dashboard has greatly reduced manhours and costs associated with the lack of automation. The committee directs the Secretary of the Army to provide a briefing to the Committees on Armed Services of the Senate and the House of Representatives, not later than March 1, 2023, on the capabilities of the Aviation Status Dashboard being used by current commands and the effectiveness of those capabilities in reducing complexity, increasing readiness, and reducing costs within the Army National Guard aviation programs. This briefing shall also focus on any undue constraints in acquiring or using the system. These constraints include the Risk Management Framework assessments and/or misunderstanding of funding mechanisms within the National Guard Bureau.

Counter-small Unmanned Aircraft Systems as a Service report

The committee is aware the Joint Counter-small Unmanned Aircraft System (C-sUAS) Office (JCO) has engaged in a process to assess the viability of C-sUAS as a Service (CaaS). Additionally, the committee understands the JCO defines CaaS "as a Contractor Owned Government Operated (COGO) provider for C-sUAS detect, identification and defeat protecting a fixed location." The committee is attuned to the current need and future requirement for CaaS and commends the JCO for moving forward in a manner that allows the Government to more accurately assess the CaaS concept.

Therefore, the committee directs the Secretary of the Army to provide a report to the congressional defense committees, not

later than March 31, 2023, to analyze and assess the following issues:

(1) The market availability of open architecture-based systems that leverage novel solutions that allow for more rapid and agile development of C-sUAS systems;

(2) Identification and prioritization for technology solutions from the military services that are hardware, sensor, and system agnostic and allow for integration of those technologies in ways that can be scaled to particular threats; and

(3) Recommendations on potential novel acquisition strategies that will allow C-sUAS systems to be acquired to match the rate of technology development while minimizing service lifecycle costs to the Department of the Army.

Critical organizational clothing and individual equipment

The committee is concerned that the Department of Army's approach to developing and acquiring critical organizational clothing and individual equipment (OCIE) and personal protective equipment (PPE) increases risk to readiness in a strategic environment that could see U.S. forces operating or training across cold weather and tropical environments. Underfunding these accounts during periods of low operational tempo eliminates opportunities to gather lessons learned and inform the development of next generation technologies. Further, it threatens the stability of the domestic industrial base, rendering it incapable of surging in times of conflict. The committee believes an enduring fielding initiative with consistent funding levels will maintain the domestic OCIE/PPE industrial base and ensure critical end items and materials are positioned to support future surge requirements.

Therefore, the committee directs the Secretary of the Army to develop a detailed strategy for an enduring fielding initiative, including proposed funding levels over the future years defense program, and to provide a briefing on that strategy to the congressional defense committees not later than March 31, 2023.

CVN-82/83 procurement authority report

The committee notes the future years defense program accompanying the President's budget request for fiscal year 2023 forecasts 2 years of advance procurement (AP) for the fifth ship in the *Gerald R. Ford*-class of nuclear-powered aircraft carriers, CVN-82, in fiscal years 2026 and 2027 with incremental funding presumably beginning in fiscal year 2028.

The committee further notes that the fiscal year 2023 30-year shipbuilding plan recognizes the importance of stability and predictability to the fragile Navy shipbuilding industry, particularly the Navy's nuclear shipbuilding industry, and notes other nuclear shipbuilding programs have utilized 3 years of AP as an additional tool to stabilize the industrial base.

The committee remains supportive of acquisition strategies that maximize benefits to operational commanders while simultaneously protecting the interests of the taxpayer. For example, the multiple-ship procurement of CVN-80 and CVN-81 will provide significant upgrades to the overall capability of the Navy's aircraft carrier fleet as well as nearly \$4.0 billion in reduced costs when compared to single ship procurements.

The committee is also aware of the benefit to the associated workforce and supplier base when aircraft carrier build intervals are optimized to avoid the "peaks and valleys" associated with extended or varying procurement profiles.

Therefore, not later than March 1, 2023, the committee directs the Secretary of the Navy to submit a report to the congressional defense committees that compares potential acquisition strategies and cost saving options associated with the next two aircraft carriers to be procured in the *Ford*-class, CVN-82 and CVN-83. This report shall include potential funding profiles, potential costs and benefits for the Navy, benefits to the shipbuilder, and benefits to suppliers for the following scenarios:

(1) CVN-82 and CVN-83 as single ship procurements, versus a combined block buy procurement that includes economic order quantity authority;

(2) 2 versus 3 years of AP funding for CVN-82 and CVN-83; and

(3) 4 versus 5 year build intervals for CVN-82 and CVN-83.

Degraded visual environment acquisition strategy

A number of hazards contribute to increased risk for ground vehicles and for military aircraft operating in close proximity to the ground. These hazards include such things as wires, buildings or other manmade structures, or other vehicles. This risk situation is greatly complicated in uncharted terrain, particularly in the presence of low-visibility conditions at night or conditions caused by smoke, dust, fog, and precipitation.

The Department of Defense refers to these situations as degraded visual environments (DVE). DVE occur during training and operational missions and have led to aircraft damage,

aircraft loss, and aircrew injuries and fatalities. The committee encouraged and supported efforts by the military services to develop and field modernized DVE systems on rotary wing aircraft and is encouraged by the collaboration shown by the Army and U.S. Special Operations Command (SOCOM) in developing and procuring a common DVE solution in order to quickly field technologies to overcome DVE situations. The Army and Air Force have ongoing efforts to ensure that existing and new air and ground vehicles, with certain exceptions, are equipped with DVE capability.

DVE systems rely heavily on software and data fusion technologies. The committee supports the services' efforts to move these software systems to open system architectures. Such architectures should lead to cost savings across the Department of Defense, while allowing faster technology insertions.

To develop a better common understanding of the current situation, the committee directs the Secretary of Defense to submit a report to the congressional defense committees, not later than December 1, 2022, on the DVE system. The report shall assess the status of DVE technology and systems that are currently being fielded for aircraft and ground systems, including costs and schedules for such systems. The report shall also assess opportunities to achieve greater utility or cost savings through coordinating or consolidating the development and procurement of DVE systems and software among the various systems developing and fielding DVE systems. The report shall also assess the DVE standard software solution as a mission-enhancing tool for SOCOM, including the potential benefits of SOCOM's rapid-fielding model for operators in the near-term.

Degraded visual environment systems—HH-60W

The Air Force decided to terminate the degraded visual environment system (DVES) for the HH-60G Combat Search and Rescue (CSAR) helicopter fleet, with the promise that the Air Force would address the problem with an accelerated HH-60W Combat Rescue Helicopter program. Now the Air Force has dropped any apparent plans to upgrade the HH-60W fleet with DVES and has decided to truncate the HH-60W procurement program far short of the original inventory objective.

The committee already had concerns that the original Air Force plan would have left Air National Guard HH-60Gs operating at greater risk for a number of years. With the announcement of the plan in the budget request to curtail the procurement of the follow-on HH-60W aircraft, Air Force units, both active component and Air National Guard, will be operating legacy aircraft without DVES for the foreseeable future. The committee

finds this situation unacceptable, particularly in view of the Air Force assessment that DVES is a "key safety enhancement for rotary wing aircraft and remains a priority."

Therefore, the committee directs the Secretary of the Air Force to provide the congressional defense committees, not later than February 1, 2023, with a fully developed acquisition plan for procuring DVES upgrades and outfitting the fleet of HH-60W helicopters.

Distributed Common Ground System

The committee applauds the Air Force for refocusing resources to reflect the current and future global threat environment, and for taking the necessary steps through divestment to modernize its intelligence, surveillance, and reconnaissance (ISR) fleet. Each ISR collection platform the Air Force operates is merely one part of a long chain of production, analysis, and dissemination of intelligence information to the battle space. While the Air Force has invested considerable time and effort in planning for divestments of ISR platforms, such as the MQ-9, U-2, and RQ-4, the committee is concerned that the Air Force has given less consideration to the rest of the enterprise that processes and disseminates information collected by those platforms—the Distributed Common Ground System (DCGS).

The committee is concerned DCGS units remain structured to conduct processing, exploitation, and dissemination of outdated mission sets and capabilities. Therefore, the committee directs the Secretary of the Air Force to submit a report to the congressional defense committees, not later than January 25, 2023, outlining the path forward for the DCGS, including detailed estimates on required manning and justification for resources that are consistent with Air Force plans to divest ISR systems.

Electronic blank technology

The committee understands maintaining operational readiness is a critical component of maintaining U.S. advantage over near-peer competitors. To this end, the Army and Navy have been working aggressively to include synthetic training environments (STE) in day-to-day protocols to ensure the proficiency of warfighters. Technological advancements in the use of electronic blanks (E-Blank) technology in synthetic training improves realism and enables additional data collection for user feedback to improve readiness. The committee is aware

of commercial off-the-shelf E-Blank technology that has the potential to increase safety and operational readiness, provide weapon proficiency specific to a soldier's assigned weapon, reduce range time, increase training efficiency, and lower the operational costs for units through the application of an anytime/anywhere system. Incorporation of E-Blanks in conjunction with other training systems, such as the Army's STE, can improve unit readiness through realistic training, reduce hazards and the logistics and administrative burdens and costs associated with legacy blank ammunition.

The committee directs the Secretaries of the Army and Navy to provide a briefing to the committee, not later March 1, 2023, on ongoing and planned activities to replace the use of legacy blank ammunition with an electro-mechanical "drop-in" E-Blank capability. This briefing shall include: (1) A detailed assessment describing how E-Blanks could improve readiness and reduce training injuries and fatalities, (2) A cost benefit analysis for Army and Navy adoption of E-Blank technology into current training methods, as well as Virtual Training and Synthetic Training, and (3) The timelines associated with integrating E-Blank technology into both current force-on-force training, as well as Virtual Trainers and STE systems.

Expeditionary shelters

The committee recognizes the importance of developing and incorporating protected expeditionary systems that support disaggregated operations in hostile, denied, and degraded environments.

Capabilities such as self-contained, rigid-walled shelters that are able to house personnel, equipment, and classified systems, while offering protection against small arms fire and fragmentation, greatly expand the Department of Defense's (DOD) ability to project power and support operations from fortified positions. The committee further recognizes that supporting innovations in this field will help posture the DOD for mission success in a range of operations against the large-scale pacing threat of China or contingency operations similar to those in Ukraine.

The committee recommends investments into providing servicemembers with military shelter systems that, under certain threat conditions, offer protection against small arms fire and fragmentation. Under such operational conditions, military shelter systems may require ballistic protection that can be quickly transported, assembled, and disassembled as required to meet mission requirements.

Extended Range Guided Multiple Launch Rocket System

The committee is aware that the Army is analyzing cost reduction initiatives for the Guided Multiple Launch Rocket System-Extended Range (GMLRS-ER) rocket. The committee applauds this effort and encourages the Army to examine all cost reduction measures, including the qualification of a second source for the solid rocket motor (SRM). As the Army prepares to transition to the GMLRS-ER rocket, the committee further notes that having two qualified suppliers of SRMs could provide the service with potential surge capacity, eliminate a single point failure disrupting production, and appropriately exercise the Nation's SRM industrial base.

Force Provider Life Support Modules

The committee recognizes that sustaining combat operations in the anticipated distributed multi-domain operational environment will be challenging. Force Provider Life Support Modules (LSM) provide fully integrated basic life support for soldiers operating in austere battlefield conditions, including shelter, food, hygiene, and billeting. Each LSM supports 150 soldiers, enabling them to live safely and securely in remote environmental conditions. The committee notes that the Army has not yet procured its full requirement for LSM necessary to support contingency plans and encourages the Department of Defense to fund this critical capability in future budgets.

Foreign pilot training

The dramatic deterioration of security conditions in Europe following Russia's unprovoked invasion of Ukraine has resulted in increased threats to U.S. troops and allies in the region and an increased demand for the United States to train foreign pilots. The committee believes these circumstances warrant accelerated timelines and a careful evaluation of U.S. security cooperation resources, including aircraft and manpower currently supporting training of foreign pilots, and immediate expenditure of any funds authorized for the foreign training mission requirements to ensure on-time delivery and training.

The committee understands that new requirements and administrative requirements put in place even before the invasion of Ukraine have increased the time needed for and the costs of providing this training as well as design and construction associated with mission-critical capability. Given heightened security risks, it is important that the United States provides training and funding for foreign pilots

expeditiously to ensure that allies and partners do not experience delays in acquiring or delivering aircraft, such as F-35s, F-16s, and H-60s. This may require an acceleration of previously understood timelines in order to meet need. The Department of Defense needs to ensure that the infrastructure and resources are matched to current and expected demand for training foreign pilots and are able to execute that training and funding as soon as practicable.

Therefore, the committee directs the Secretary of Defense to submit a report to the congressional defense committees, not later than 60 days after the date of the enactment of this Act. That report shall address:

(1) Current and expected demand for U.S. training of foreign pilots;

(2) Current capability and capacity to conduct training of foreign pilots;

(3) How potential divestments would affect capability and capacity for training foreign pilots;

(4) Plans to increase training capacity to meet any increase in expected demand;

(5) An assessment of the current pilot training infrastructure and an assessment of the need for and cost and benefits of expanding that infrastructure;

(6) An assessment of how best to expedite usage of any funds authorized or associated with foreign training; and

(7) The objective criteria the Department is using, or will use, in deciding on where training of foreign pilots will be conducted.

Future Air Force aircraft basing criteria

The Air Force is in the midst of modernizing significant portions of the force structure, particularly attack and fighter aircraft squadrons and aerial refueling aircraft wings. It would be in the Air Force's best interests if the method for making decisions on which bases and units are modernized, and in which order they are to be modernized, is transparent to the units and other stakeholders. The committee believes the Air Force should take into consideration the broadest range of criteria in making such decisions and that these criteria should be transparent.

The committee believes that, with regard to basing decisions for attack and fighter aircraft squadrons and aerial refueling aircraft wings, the Air Force should use criteria, in consultation with the combatant commanders, that would prioritize consideration of bases that have already successfully hosted complex flying missions in order to leverage existing infrastructure. In reviewing basing options for these future

capabilities, the committee encourages the Air Force to give priority consideration to bases at which the Air Force currently hosts attack, fighter, and aerial refueling aircraft they propose to retire during the future years defense program in order to provide for consistency in base operations and programming of any infrastructure or other resourcing required to support proposed transitions.

The committee further urges the Air Force to consider the collective value of installation attributes, to include objective criteria, such as high average flying days per year and highest mission capable rates; existing installation and airfield infrastructure and base support; and for attack and fighter aircraft squadrons, access to proximate gunnery ranges and other training requirements. The committee also needs to understand the objective criteria the Air Force will use for deciding between fielding new aircraft with Active Duty and reserve component units.

The committee directs the Secretary of the Air Force to provide a briefing to the congressional defense committees, not later than February 28, 2023, regarding the publication of objective basing criteria for all attack, fighters, and aerial refueling aircraft being used to replace retiring systems, as well as any relevant basing proposals and infrastructure needs required to support the proposals.

HH-60W Combat Rescue Helicopter Program

The Air Force has decided to truncate the HH-60W Combat Rescue Helicopter program in the budget request for fiscal year 2023. This action would terminate the program, having produced only 75 helicopters, though the inventory objective remains at a level of 113 aircraft. The committee understands that operational analysis has shown that the requirement could be upwards of 144 aircraft to support this mission.

A former Air Force Chief of Staff stated that the Air Force has a "moral and ethical imperative" to rescue the pilots and ground troops that venture into harm's way. Another general cancelled air strikes in Vietnam to dedicate 150 aircraft to the rescue of one pilot shot down 40 miles from Hanoi. The committee is therefore concerned that the Air Force's plan to truncate the program of record could place U.S. men and women at unacceptable risk should they need combat rescue.

Therefore, the committee directs the Secretary of Defense to provide a briefing to the congressional defense committees, not later than March 1, 2023, on how the Department of Defense plans to satisfy the combat rescue requirement with U.S. assets

should the Air Force's program of record be truncated short of the inventory objective.

Maneuver Short Range Air Defense increment 3 missile

The committee supports the Army's plan to acquire the Maneuver Short Range Air Defense (M-SHORAD) increment 3 missile. Supported by practical experience in the ongoing illegal invasion of Ukraine, the committee agrees with the Army that a next-generation capability with increased range and lethality is critical to the Army, allies, and security partners. The committee believes the priorities for this program should be on increased range, speed, and lethality to provide greater protection to Army maneuver forces. Further, based on legacy experience with the current M-SHORAD program, the committee believes it is imperative that the Army prioritize industry/Government co-development and weapons open system architecture environments to facilitate affordable rapid technology insertion. Long-term sustainment costs to the Government can be reduced by leveraging these acquisition priorities, as well as digital engineering and data analytics prioritization from Milestone A forward. Additionally, M-SHORAD increment 3 should be developed from inception as a foreign military sales program, meaning exportability should be a priority. Finally, in view of the potential for future conflicts in an ever more unstable global security environment, the committee urges the Army to adopt the most flexible acquisition approach to challenge industry to adopt aggressive timelines to field increment 3.

MQ-9 Reaper program

Due to the decreased focus on MQ-9 Reaper operations in U.S. Central Command, the Air Force plans to divest a portion of its MQ-9 fleet. Some have suggested that the MQ-9 still has a role in great power competition. Supporters of continued MQ-9 employment have asserted that the MQ-9 possesses similar survivability as other fourth generation aircraft, and there is no reason that they could not operate in threat environments similar to F-15s or F-16s.

The committee needs to understand how the MQ-9 Reaper force could contribute to future combat capability. The committee directs the Office of Cost Assessment and Program Evaluation (CAPE) to conduct an assessment, to be completed not later than February 1, 2023, of the MQ-9 Reaper platform, to include: (1) Current missions of the MQ-9; (2) Potential additional uses of MQ-9s through 2040 in relation to other

weapons systems; (3) The comparative cost of the MQ-9 to other capability alternatives for providing long-range (radar horizon) detection capability, identification, and location of radar and communication signals of interest; and (4) Any costs incurred if current MQ-9 tasks are assigned to high-end aircraft.

The committee directs the Secretary of the Air Force to, not later than 30 days after the completion of the CAPE assessment, to provide a report to the congressional defense committees including: (1) The CAPE assessment; (2) An analysis of the potential to use the MQ-9 platform for new missions, such as improved signals intelligence, communications intelligence, or disaggregated airborne moving target indicator capability; (3) Recommendations of modifications that adapt the MQ-9 to be more effective in new uses while also reducing manpower costs; (4) A long-term personnel resource plan that protects the Air Force remotely piloted aircraft community from being disrupted by future changes in force structure; (5) An engagement plan with the combatant commands to incorporate greater participation among partner nations in unmanned aircraft operations; (6) An assessment of the capability to improve MQ-9 survivability; and (7) Potential efforts by the Air Force, in partnership with the Joint Artificial Intelligence Center, to develop and integrate a self-protection capability into the MQ-9 to enable MQ-9 aircraft to operate in contested environments.

Next generation aramid copolymer fiber for armor solutions

The committee applauds the Secretary of Defense and the Army for leveraging the Defense Production Act of 1950 (Public Law 81-774) to develop Next Generation Aramid (NGA), a copolymer fiber that is substantially lighter and stronger than existing legacy para-aramid fibers. However, the committee notes that the Army and the Marine Corps have not increased the objective requirements for soldier protection programs. The committee is aware that NGA delivers an approximate 30 percent increase in strength over existing para-aramid fibers, enabling a previously unattainable level of weight reduction to woven ballistic protection. The inherent flame resistance of NGA provides fire protection at no additional weight or cost, thus enabling best in class fragment and ballistic protection in flexible, soft body armor. NGA's greater flexibility compared to ultra-high-molecular-weight polyethylene, make it ideal for conforming to female soldiers. NGA can deliver immediate benefits to active soft armor programs—enabling weight reduction to Army and Marine Corps programs like the Soldier Protection System, Modular Scalable Vest, Ballistic Combat Shirt, and Blast Pelvic Protector. Additionally, NGA potential hard armor applications

include material hybridized rifle resistant helmets, ballistic plates, vehicle spall liners, and hard armor.

Accordingly, the committee directs the Secretary of the Army, in coordination with the Secretary of the Navy, to provide a briefing to the committee, not later than March 1, 2023, outlining the timeline and progress made to date for updating personal protective equipment requirements to incorporate the benefits of NGA.

Next Generation Surface Search Radar

The committee notes the AN/SPS-73(V)18 Next Generation Surface Search Radar (NGSSR) is a multi-mission software configurable radar that delivers improved situational awareness capabilities to the U.S. Navy surface fleet through advancements in safe navigation, periscope detection, fast attack defense, and drone detection. The committee further notes the Chief of Naval Operations recommended the NGSSR for accelerated fielding based on deficiencies identified in the Navy's 2017 Comprehensive Review of the USS *John S. McCain* and USS *Fitzgerald* collisions.

The committee understands the NGSSR is progressing through developmental testing with systems being delivered to shipyards for installation across the surface fleet. The committee encourages the Secretary of the Navy to transition or evolve the program from a development-type contract to one that matches the stage of program maturity and production. The committee is concerned that without such actions the Navy will unacceptably delay the fielding of NGSSR to the surface fleet by inhibiting acquisition of long lead items; impeding stability for subcontractors; creating logistics and talent shortages; and delaying installation, training, and sparing efforts.

Accordingly, the committee directs the Secretary of the Navy to provide a briefing to the defense committees, not later than December 1, 2022, on the status of the NGSSR's contract vehicle maturation and its full fielding plan across the surface fleet.

Night vision and situational awareness devices

The committee is encouraged by the rapid development of the Integrated Visual Augmentation System (IVAS) capability and the Army's interest in accelerating development of the IVAS version 1.2. The committee also recognizes the relevance of the broader range of night vision and situational awareness devices and the likelihood that Army formations will include mixed

capabilities, particularly as new capabilities are developed and fielded.

The committee also notes that a recurring comment from soldiers and junior leaders at IVAS soldier touch points is that not all personnel in a close-combat formation should be equipped with IVAS and that equipping select soldiers with alternative night vision and situation awareness equipment could make the formations more combat effective. The committee believes the Army should experiment with mixed-equipping of close-combat formations in order to best inform its IVAS and night vision systems basis-of-issue, procurement decisions, and overarching night vision strategy.

Therefore, the committee directs the Secretary of the Army to conduct experimentation on mixed-equipping within close combat formations of IVAS, Enhanced Night Vision Goggle-Binocular, and other elements of the Army night vision and situational awareness systems, and to provide a briefing to the congressional defense committees on findings and recommendations of the experimentation, not later than March 31, 2023.

One World Terrain

The committee recognizes that Army Futures Command has seen great utility in the One World Terrain (OWT) three dimensional (3D) geospatial data used for both synthetic training and operational missions, most recently in Ukraine and Afghanistan. The committee encourages continued expansion of the OWT program to provide 3D geospatial data for operational missions while continuing to improve synthetic training requirements. The committee encourages future budget requests to take into consideration operational missions, including mission planning, targeting, navigation, and analysis.

Procurement of sea mines and near-term improvements to mine capabilities and delivery options

The committee is aware that significant opportunities exist to expand the usage of advanced sea mines in the Department of Defense, in furtherance of deterrence by denial strategies. Historical experience, operations research and modeling, and expert judgment affirm that sea mines remain among the most effective means of deterring and denying amphibious assaults. However, the committee is concerned about the extant mining capabilities of the U.S. military needed for these purposes for the Indo-Pacific theater. Further, the committee is concerned that the U.S. industrial base may not be postured to

produce a range of cost-effective sea mines for U.S. allies and partners. The committee understands that although the Navy possesses several mature mine programs, it appears that there are several promising capabilities absent from joint discussions on near-term prioritization to impact deterrence within the future years defense program.

The committee directs the Vice Chairman of the Joints Chiefs of Staff, in coordination with the Commander of U.S. Indo-Pacific Command, the Secretary of the Navy, the Chief of Naval Operations, the Secretary of the Air Force, and the Chief of Staff of the Air Force, to deliver a briefing to the congressional defense committees, not later than September 1, 2023, detailing existing U.S. requirements and capabilities for offensive and defensive naval mining, potential improvements to the capability portfolio for U.S. or partner usage and potential production capacity expansion, along with associated resourcing requirements.

RC-135 programs

The RC-135 fleet provides unique intelligence, surveillance, and reconnaissance capabilities and has proven value for the national intelligence picture. The combatant command demand for RC-135 aircraft exceeds fleet capacity, which has been a consistent situation for decades. To avoid having too many RC-135 aircraft in the depot at any one time, the Air Force utilizes an incremental baseline modernization strategy to ensure capabilities will meet warfighter requirements.

An element of that strategy involves using the program's NC-135W test aircraft for experimentation and demonstration of novel technologies. The Air Force has adopted a plan to replace the legacy NC-135W test aircraft with an aircraft in an operationally representative configuration. The plan would involve converting a TC-135 training aircraft to an NC-135R configuration by 2025, resulting in improvements in overall RC-135 fleet availability and increases in testing capability and capacity. The committee supports the Air Force plan as briefed.

The committee also understands that this plan includes a conversion of one KC-135R tanker aircraft to a TC-135 training aircraft, depending upon the availability of a donor aircraft and funding to make the conversion. To mitigate against risk associated with a reduced TC-135 training aircraft fleet, the committee directs the Air Force to identify available KC-135 aircraft among the tankers being realigned to make way for KC-46 deployments and designate an aircraft to be converted to a TC-135 training aircraft. The committee directs the Secretary of the Air Force to submit a report, not later than January 31,

2023, on the plan to implement this conversion and an assessment of whether any depot scheduling issues may affect this plan.

Report on potential use of CMV-22B to transport munitions

The committee is concerned that delays in the movement of certain types of ordnance to aircraft carriers for use by the carrier air wing could have negative operational consequences.

Accordingly, the committee directs the Secretary of the Navy to submit to the congressional defense committees, not later than March 1, 2023, a report on the potential capability of the CMV-22B or a follow-on aircraft to transport a range of munitions to an aircraft carrier for purposes of providing additional capability or re-supply to the carrier air wing.

This report shall include an assessment of the following: (1) The full range of weapons that could be employed by a carrier air wing; (2) The quantities of such weapons that could be transported by a properly configured CMV-22B or follow-on aircraft; (3) Ranges and flight durations to transport such munitions based on notional quantities, types, and mixes of munitions; (4) The approximate cost to modify a CMV-22B or follow-on aircraft to perform such tasks; (5) Policy, safety, engineering, and other considerations related to such modifications; and (6) The potential operational benefits of such a capability.

Tanker modernization and ground infrastructure for fuel in Indo-Pacific

A reliable source of refueling capability is required to meet combined requirements of high-intensity conflict in the Indo-Pacific region or the U.S. European Command area of operations and to fulfill strategic forces operations. According to the testimony of previous commanders of U.S. Transportation Command, however, acquisition of additional tankers based on commercial airliners may not satisfy this requirement.

Existing tankers, all based on "tube and wing" designs, have immense radar cross sections, rendering them vulnerable to advanced counter-air threats at long ranges. Given this vulnerability, these tankers cannot get close enough to the fight. This will diminish the capacity of all of the missions the tankers support—strike, air defense, and intelligence collection. So-called blended wing body (BWB) designs, an evolution of flying wing technology, inherently have substantially lower radar cross sections, without special

stealth treatments, which would enable them to operate much closer to long-range air defense systems.

In addition, BWB designs potentially offer greater fuel efficiency. Estimates of savings range up to 30 percent compared to existing tanker designs. That would translate into more support for tankers, bombers, and cargo aircraft. The Air Force's initial analysis shows increases in combat capability on the order of a 60 percent or greater aerial refueling fuel offload at range.

The committee also understands that BWB designs could provide greater volume efficiency as well, with at least 65 percent more productivity compared to a C-17 and at least 30 percent more fuel efficiency compared to a KC-46. Notably, estimated fuel savings for a 2040 fleet of BWB aircraft at current fuel prices would be more than \$1.5 billion each year. Furthermore, the committee understands that BWB aircraft designs are the only known approach that could enable use of hydrogen propulsion, which could contribute significantly to reducing greenhouse gas emissions.

These characteristics are of high interest to commercial shipping companies and the airline industry. This has led the Air Force to investigate partnering with private investors to pay for a large-scale BWB demonstrator. The President's budget request for the Air Force includes \$56.9 million to begin a 4-year program to build this demonstrator, in partnership with industry. The committee strongly endorses this initiative.

While the BWB demonstrator program proceeds, near-year investment in aviation fuel logistics capacity and survivability is needed and should be focused on ground infrastructure in the U.S. Indo-Pacific Command (INDOPACOM) area of operations. A recent study from a prominent research and analysis non-profit organization indicated that an affordable investment over the next 5 years in ground infrastructure could increase tanker capacity by over 60 percent, while greatly enhancing resilience and survivability of the existing force.

The committee directs the Air Force and Navy operational energy executives, in coordination with the Director of Cost Analysis and Program Evaluation, the Commander, INDOPACOM, and the Vice Chairman of the Joint Chiefs of Staff, to study and provide a briefing on the ground and sea-based support infrastructure for aviation fuel in INDOPACOM and recommend to the Secretary of Defense and the Congress high-payoff investment options for infrastructure investment through the future years defense program. The briefing shall be provided to the congressional defense committees not later than May 15, 2023.

UH-60V Blackhawk helicopter

The committee notes that modernization of older model UH-60 Blackhawks through recapitalization and upgrades to the new UH-60V model is crucial to ensuring the continued viability of the Blackhawk fleet. This effort extends the service life of airframes, upgrades cockpits from analog to digital, and increases overall performance.

The committee supports the Army's plan to field UH-60V Blackhawks in all components in order to maintain fleet and mission parity across the Army. Additionally, the committee notes that a substantial increase of UH-60V production capacity is required to achieve on-time fielding and timely divestiture of obsolete airframes from the force.

The committee directs the Secretary of the Army to provide a briefing to the congressional defense committees, not later than February 20, 2023, on UH-60V production and fielding. The briefing shall include an update on production capacity, aircraft delivery timeliness, and intended distribution plans in the context of aviation force structure design updates currently being considered by the Army.

UH-72 Lakota helicopter modernization

The committee recognizes the versatility of UH-72 Lakota aircraft fitted with sophisticated mission equipment packages (MEP) that enable Army National Guard (ARNG) aviation to perform a variety of missions, including counterdrug, search and rescue, disaster relief, border security, and other domestic operations. The committee further recognizes the increased performance and versatility of newer UH-72B aircraft being fielded to select states and the value of upgrades to address obsolescence issues in the earlier UH-72A variant. The committee notes that domestic UH-72 production capability will end in fiscal year 2023, and that updates to address obsolescence issues and modifications such as the MEP would sustain the Lakota workforce and expertise at the production facility while preserving the industrial capability to meet future Army, ARNG, other Government agency or foreign military sales needs.

TITLE II—RESEARCH, DEVELOPMENT, TEST, AND EVALUATION

SUBTITLE A—AUTHORIZATION OF APPROPRIATIONS

Authorization of appropriations (sec. 201)

The committee recommends a provision that would authorize the appropriations for research, development, test, and evaluation activities at the levels identified in section 4201 of division D of this Act.

SUBTITLE B—PROGRAM REQUIREMENTS, RESTRICTIONS, AND LIMITATIONS

Disclosure requirements for recipients of research and development funds (sec. 211)

The committee recommends a provision that would require individuals or entities that use funds received from the Department of Defense to carry out research and development activities to disclose the dollar amount received in any public document relating to such activities.

Modification of cooperative research and development project authority (sec. 212)

The committee recommends a provision that would amend section 2350a(i) of title 10, United States Code, to expand the authority to participate in Department of Defense (DOD) cooperative research and development projects to parties within the National Technology Industrial Base (NTIB) as well as the European Union (EU).

The committee believes the NTIB provides unique opportunities for collaboration on research, development, production, and the provision of services between allies and fosters a secure, reliable industrial base in a variety of critical technology areas, to include critical materials. Expanding cooperative research and development projects to the NTIB would enable trusted organizations from industry, academia, and non-governmental organizations within these countries to participate more fully in DOD research and development projects.

The committee believes expanding this authority to the EU, including other pan-European organizations, such as the European Defense Agency, would enable the Department to participate in cooperative research and development projects the EU may undertake collectively.

Administration of the Advanced Sensor Applications Program (sec. 213)

The committee recommends a provision that would provide direction on the organization of the Advanced Sensor Applications Program.

Modification of authority of the Department of Defense to carry out certain prototype projects (sec. 214)

The committee recommends a provision that would amend section 4022 of title 10, United States Code, to streamline certain follow-on production awards related to certain successful prototype projects.

Competitively awarded demonstrations and tests of electromagnetic warfare technology (sec. 215)

The committee recommends a provision that would require the Director of the Air Force Rapid Capabilities Office to conduct competitively awarded demonstrations and tests of commercial electronics technology to determine whether technology exists to enable certain electromagnetic warfare capabilities. The provision would also require certain briefings and provide permissive funding authorities depending on the outcomes of the demonstrations and tests.

Government-Industry Working Group on Microelectronics (sec. 216)

The committee recommends a provision that would require the Secretary of Defense to establish a Government-Industry Working Group on Microelectronics to provide a forum for information sharing and consultation on areas of mutual interest. Such a forum would allow for open dialogue and technical exchanges to help inform Department of Defense developmental planning so that industrial and production considerations can be factored in earlier in the planning process.

The committee also believes that such a forum can be especially useful as the Department develops quantifiable assurance (QA) standards to ensure trust and supply chain resiliency in the broader ecosystem. The committee is frustrated by the slow pace of QA standards development that could be applied to the broader commercial sector focused on non-DOD unique microelectronics and believes that this working group would be a critical tool to help jumpstart and validate that process.

The committee is also concerned that many of the initiatives surrounding QA do not leverage the skills and experience of members of the commercial sector to help inform

the Department's activities. For example, the committee is aware that the Department has established a "red team" to assess the viability of QA, yet none of the members include representatives from major fabless semiconductor companies or state-of-the-art manufacturers. The committee strongly urges the Department to include practitioners from commercial fabless and foundry companies that design and manufacture state-of-the-art semiconductors in any assessments that are conducted on the development and effectiveness of QA.

Inclusion of Office of Under Secretary of Defense for Research and Engineering in personnel management authority to attract experts in science and engineering (sec. 217)

The committee recommends a provision that would include the Office of the Under Secretary of Defense for Research and Engineering in an existing personnel management authority to recruit experts in science and engineering, subject to certain requirements and limitations, and allow for them to use this authority for up to 10 positions.

Investment plan for foundational capabilities needed to develop novel processing approaches for future defense applications (sec. 218)

The committee recommends a provision that would require the Secretary of Defense to develop a triennial investment plan for foundational capabilities needed to develop novel processing approaches for future defense applications. Such a roadmap would allow for greater coordination within the Department of Defense and establish an integrated approach to the identification, prioritization, development, and leveraging of research and development investments.

Open radio access network 5G acquisition acceleration and transition plans (sec. 219)

The committee recommends a provision that would require various Secretaries to develop and submit unclassified 3-year transition plans for fifth generation (5G) information and communications technology infrastructure. The provision would also require assessment of the transition plans.

Over the past several years, the committee has supported rapid development, demonstration, and adoption of 5G capabilities based on virtualized and modular Open Radio Access Network (ORAN) standards and technology. The committee has also supported the development of a robust domestic supply chain of

ORAN equipment and software that can compete globally against heavily subsidized, proprietary, and non-modular network offerings from China. The committee is disappointed that to date, the Department of Defense and the services have not prioritized investment in ORAN technology in their 5G deployments and experiments. Instead, the Department has relied primarily on legacy providers using proprietary systems that include parts and software developed overseas. The committee believes that acquisition of 5G ORAN would allow the maturation of the technology and support the emergence of a domestic ecosystem of suppliers and software developers.

Pilot program to facilitate the development of electric vehicle battery technologies for warfighters (sec. 220)

The committee recommends a provision that would allow the Secretary of Defense to establish a pilot program to provide support for domestic battery producers to facilitate research and development into new or novel battery chemistries, assess existing commercial offerings for military utility, and transition such technologies to warfighters.

SUBTITLE C—PLANS, REPORTS, AND OTHER MATTERS

Report on recommendations from Army Futures Command Research Program Realignment Study (sec. 231)

The committee recommends a provision that would require the Secretary of the Army to provide to the congressional defense committees, not later than 180 days after the date of the enactment of this Act, a report on the implementation of the Army Futures Command Research Program Realignment Study recommendations. The report would describe the status of implementation of the study's recommendations, details regarding future implementation of those recommendations not yet implemented, and justification for those recommendations the Secretary does not intend to implement.

Strategy and plan for strengthening and fostering defense innovation ecosystem (sec. 232)

The committee recommends a provision that would require the Department of Defense to submit a strategy and implementation plan for strengthening and fostering defense innovation ecosystems on a quadrennial basis, beginning in 2023.

The committee is aware of many innovation ecosystems spread across the country, some supported by other Federal agencies for technology and economic development, but many that have sprung up organically or as a result of private sector investment. The committee recognizes the value of leveraging geographically and regionally focused concentrations of talent, funding, and infrastructure to provide a critical mass with all the necessary ingredients for innovation.

The committee believes the Department of Defense can and should do more to identify regional hubs beneficial to the Department and strategically use the tools at its disposal to help cultivate and expand the innovation ecosystems. Examples at the grassroots level, like the work done at the Naval Surface Warfare Center (NSWC) Crane Division, as highlighted by a study from the Massachusetts Institute of Technology Sloan School of Management, published May 17, 2019, titled "NSWC Crane Innovation Analysis: Contributing to Regional Innovation Ecosystems," help demonstrate what is possible with senior level support and dedication of some time and resources for coordination and synchronization with state, local and private sector entities. The committee encourages the Department to find opportunities to leverage its geographic advantages and existing authorities to create and strengthen geographic hubs that can provide foundational support for wider research, technology and economic development that supports the Department.

Modification of Director for Operational Test and Evaluation annual report (sec. 233)

The committee recommends a provision that would amend section 139(h)(3) of title 10, United States Code, by requiring a publicly releasable version of the report if a controlled unclassified information (CUI) version is submitted to Congress.

The committee is concerned that the most recent Director of Operational Test and Evaluation annual report contained a blanket CUI restriction, which some perceive as being overly restrictive and unduly less transparent and accountable. While the committee understands the need to protect sensitive unclassified information, we remain concerned that the process for comprehensively applying the CUI marking guidance in a systematic way is lacking. The result is often the blanket application of the CUI marking to entire documents, rather than using portion, derivative classification, and other markings similar to a classified document. In the tradeoff between security and accountability, the committee believes that the Department of Defense should have a more deliberative process, similar to that used for the marking of classified national

security information, for determining what information should be protected from adversaries and what information should be publicly released to enhance transparency and accountability in the Department.

Extension of requirement for quarterly briefings on development and implementation of strategy for fifth generation information and communications technologies (sec. 234)

The committee recommends a provision that would extend the requirement for quarterly briefings on the development and implementation of the strategy on fifth generation information and communications technologies.

Report on estimated costs of conducting a minimum frequency of hypersonic weapons testing (sec. 235)

The committee recommends a provision that would require the Secretary of Defense to submit a report on estimated costs for conducting not fewer than one full-scale, operationally relevant, live-fire, hypersonic weapon test of the systems currently under development each year by the Air Force, the Army, and the Navy, once such systems reach initial operational capability.

Annual report on studies and reports being undertaken by the Department of Defense (sec. 236)

The committee recommends a provision that would amend section 4126 of title 10, United States Code, to require the Secretary of Defense to deliver an annual report to the Committees on Armed Services of the Senate and the House of Representatives on all studies and reports being undertaken for the Department of Defense by a federally funded research and development center. The required report shall exclude any classified reports or studies, technical reports associated with scientific research, or draft reports.

Quantifiable assurance capability for security of microelectronics (sec. 237)

The committee recommends a provision that would require the Secretary of Defense to develop and implement a capability for quantifiable assurance for security of microelectronics, including establishment of requirements and a schedule.

Clarification of role of Chief Digital and Artificial Intelligence Officer (sec. 238)

The committee recommends a provision that would update references in United States Code and various National Defense Authorization Acts to re-designate responsibilities of the now-disestablished Joint Artificial Intelligence Center to the Chief Digital and Artificial Intelligence Officer.

BUDGET ITEMS

ARMY

Basic research increase

The budget request included \$279.3 million in Research, Development, Test, and Evaluation, Army (RDA) for PE 61102A Defense Research Sciences.

The committee believes that building fundamental scientific knowledge, particularly in niche areas with relevance to ground warfighting and limited commercial investment, is vital to the continued superiority of the Army.

Therefore, the committee recommends an increase of \$30.0 million in RDA PE 61102A for basic research.

Counter-unmanned aircraft systems technologies

The budget request included \$279.3 million in Research, Development, Test, and Evaluation, Army (RDA) for PE 61102A Defense Research Sciences.

The committee supports the Army's investment in advanced technologies to mitigate threats from unmanned aircraft systems (UAS), especially as these threats emerge and mature rapidly.

Therefore, the committee recommends an increase of \$5.0 million in RDA PE 61102A for counter-UAS technologies.

Data exchange system for a secure digital engineering environment

The budget request included \$279.3 million in Research, Development, Test, and Evaluation, Army (RDA) for PE 61102A Defense Research Sciences.

The committee notes the potential of additive manufacturing to support Army modernization priorities and provide deployable capabilities to support the production, repair, and sustainment of Army systems. The committee notes that to realize the full potential of additive manufacturing

capabilities, the Army needs to develop a digital backend, known as a "Digital Thread" that includes secure trusted endpoints for untrusted additive manufacturing machines, search capabilities, inclusion of smart technical data packages, and a data architecture that accounts for intellectual property rights management.

Therefore, the committee recommends an increase of \$5.0 million in RDA PE 61102A to further the development of data exchange systems providing a secure digital engineering environment to promote use of additive manufacturing throughout the joint force.

Future Force Requirements Experimentation program

The budget request included \$103.8 million in Research, Development, Test, and Evaluation, Army (RDA) for PE 62143A Soldier Lethality Technology.

The committee recognizes that failure to successfully transition promising innovations to scalable military capabilities is a critical gap that is eroding U.S. military-technology competitiveness. The committee is also aware that the Future Force Requirements Experimentation program is developing the next generation of technology innovation.

Therefore, the committee recommends an increase of \$5.0 million in RDA PE 62143A for the Future Force Requirements Experimentation program.

Earthen structures soil enhancement

The budget request included \$52.8 million in Research, Development, Test, and Evaluation, Army (RDA) for PE 62144A Ground Technology.

The committee recognizes the need for additional research to assist the U.S. Army Engineer Research and Development Center in its effort to discover new environmentally friendly materials, such as biopolymers, that can be used to enhance military earthen structures and help reduce the Army's carbon footprint.

Therefore, the committee recommends an increase of \$2.0 million in RDA PE 62144A for earthen structures soil enhancement.

High temperature polymeric materials

The budget request included \$52.8 million in Research, Development, Test, and Evaluation, Army (RDA) for PE 62144A Ground Technology.

The committee is aware that affordable and multi-functional high temperature polymeric materials can be useful for a range of applications and are critical for thermal, blast, and penetration protection.

Therefore, the committee recommends an increase of \$5.0 million in RDA PE 62144A for high temperature polymeric materials.

Counter-unmanned aerial systems applied research

The budget request included \$27.0 million in Research, Development, Test, and Evaluation, Army (RDA) for PE 62150A Air and Missile Defense Technology.

The committee recognizes that unmanned aerial systems (UAS) present an ever-increasing threat to U.S. troops and assets when deployed. Applied research to evaluate counter-UAS capabilities and develop mitigation technologies is necessary to ensure warfighter safety and force protection more broadly.

Therefore, the committee recommends an increase of \$5.0 million in RDA PE 62150A for continued support of counter-UAS applied research.

Indo-Pacific Command technical workforce development

The budget request included \$13.6 million in Research, Development, Test, and Evaluation, Army (RDA) for PE 62213A Command, Control, Communications, and Intelligence (C3I) Applied Cyber.

The committee understands that U.S. Indo-Pacific Command would benefit from a larger technically-proficient workforce, particularly in fields such as artificial intelligence, cybersecurity, electromagnetic warfare, data science, and intelligence. The committee also understands that the Cyber Institutes at Institutions of Higher Learning program is a promising source of skilled labor in support of U.S. Indo-Pacific Command and joint force personnel requirements.

Therefore, the committee recommends an increase of \$5.0 million in RDA PE 62213A for U.S. Indo-Pacific Command technical workforce development.

Graphene-enabled technologies for ground combat operations

The budget request included \$32.5 million in Research, Development, Test, and Evaluation, Army (RDA) for PE 63119A Ground Advanced Technology.

The committee understands that graphene has certain properties that can be used for ground combat-specific

applications. The committee believes that graphene, graphene-like, and graphene-based materials should be explored for use in technology development focus areas of force protection, force projection, and battlespace environment and infrastructure.

Therefore, the committee recommends an increase of \$5.0 million in RDA PE 63119A for graphene-enabled technologies for ground combat operations.

Autonomous ground vehicle cybersecurity

The budget request included \$193.2 million in Research, Development, Test, and Evaluation, Army (RDA) for PE 63462A Next Generation Combat Vehicle Advanced Technology.

The committee believes that autonomous ground vehicles present both opportunities for the Department of Defense as well as new vulnerabilities, most notably in the area of cybersecurity.

Therefore, the committee recommends an increase of \$5.0 million in RDA PE 63462A for autonomous ground vehicle cybersecurity.

Combat vehicle hybrid-electric transmissions

The budget request included \$193.2 million in Research, Development, Test, and Evaluation, Army (RDA) for PE 63462A Next Generation Combat Vehicle Advanced Technology.

The committee encourages the continued development of a transformational hybrid-electric transmission for combat vehicles. The committee believes that such technologies may help to reduce the logistical footprint of ground forces and reduce fuel consumption consistent with Department of Defense and Army Climate Strategies.

Therefore, the committee recommends an increase of \$7.0 million in RDA PE 63462A for further development of hybrid-electric transmissions for combat vehicles.

Multi-Service Electro-Optical Signature code modernization

The budget request included \$193.2 million in Research, Development, Test, and Evaluation, Army (RDA) for PE 63462A Next Generation Combat Vehicle Advanced Technology.

The committee believes that ongoing efforts to increase the use of hybrid and electric ground combat vehicle power systems requires modernization of the Multi-Service Electro-Optical Signature code (MuSES), the Army's modeling and simulation tool for electro-optical/infrared signature analysis and prediction in order to accurately model and predict electro-

optical and infrared signatures of both U.S. and potential adversaries' ground vehicles.

Therefore, the committee recommends an increase of \$3.0 million in RDA PE 63462A to modernize the MuSES code used to model the heat signature of combat vehicles.

Next-generation contaminant analysis and detection tools

The budget request included \$125.6 million in Research, Development, Test, and Evaluation, Army (RDA) for PE 63463A Network Command, Control, Communications, and Intelligence Advanced Technology.

The committee believes that the ability to conduct real-time analysis and detection of environmental contaminants, including per- and polyfluoroalkyl substances, in the field is an important capability for the Department of Defense. The committee understands that next-generation ultra-high sensitivity optical spectroscopy analyzers may provide such detection and analysis capabilities, particularly in cold environments.

Therefore, the committee recommends an increase of \$5.0 million in RDA PE 63463A for next-generation contaminant analysis and detection tools.

Positioning, Navigation, and Timing situational awareness tools and techniques

The budget request included \$125.6 million in Research, Development, Test, and Evaluation, Army (RDA) for PE 63463A Network Command, Control, Communications, and Intelligence Advanced Technology.

The committee recognizes the need to address critical technological gaps that U.S. and allied forces may face in Global Positioning System (GPS)-degraded or GPS-denied environments.

Therefore, the committee recommends an increase of \$10.0 million in RDA PE 63463A to mature Positioning, Navigation, and Timing situational awareness tools and techniques.

Extended Range Artillery Munition Suite

The budget request included \$100.8 million in Research, Development, Test, and Evaluation, Army (RDA) for PE 63464A Long Range Precision Fires Advanced Technology.

The committee notes that further development of long range precision fires capabilities is a high priority for the Army, and believes that enhanced capabilities for existing and future

tube artillery is vital to ensuring cost-effective massed fires at range. The committee believes that further risk reduction activities for the Extended Range Artillery Munitions Suite program in particular are vital to continued progress on this key Army modernization priority.

Therefore, the committee recommends an increase of \$5.0 million in RDA PE 63464A for the Extended Range Artillery Munition Suite.

Future Long Range Assault Aircraft

The budget request included \$1.2 billion in Research, Development, Test, and Evaluation, Army (RDA) for PE 63801A Aviation - Advanced Development.

The committee recognizes this critical transition period to a program of record for the Army's Future Long Range Attack Aircraft (FLRAA).

The committee recommends an increase of \$23.0 million in RDA PE 63801A for FLRAA to maintain program momentum by funding long-lead materials and rapid system prototyping.

Anthropomorphic body armor

The budget request included \$26.0 million in Research, Development, Test, and Evaluation, Army (RDA), for PE 63827A Soldier Systems - Advanced Development.

The committee recognizes the importance of continuing efforts to build better, lighter, and conforming body armor in order to improve soldier protection on the battlefield.

The committee recommends an increase of \$2.0 million in RDA PE 63827A for anthropomorphic body armor development and prototyping.

Machine Learning for Army Integrated Fires

The budget request included \$39.5 million in Research, Development, Test, and Evaluation Army (RDA) in PE 64741A for Air Defense Command, Control and Intelligence - Eng Dev.

The committee notes the increasing threat of Cyber Electromagnetic Activities (CEMA) and the need for critical improvements that are required to protect Army Integrated Fires sensors, offensive fires capabilities, and enabling command and control and communications networks against these formidable, multi-dimensional, and rapidly-evolving threats.

The committee recommends an increase of \$2.0 million in RDA PE 64741A for technology improvements, including artificial

intelligence/machine learnings algorithms, for CEMA threat identification and alerts.

Red Team automation and zero trust capabilities

The budget request included \$111.7 million in in Research, Development, Test, and Evaluation, Army (RDA) for PE 64818A Army Tactical Command and Control Hardware and Software.

The committee recommends an increase of \$23.0 million in RDA for PE 64818A for cyber red team automation and zero trust capabilities.

Low detectable, optically-triggered active protection system

The budget request included \$109.7 million in Research, Development, Test, and Evaluation, Army (RDA) for PE 64852A Suite of Survivability Enhancement Systems - EMD.

The committee recognizes the substantial threat that anti-tank missiles and rockets pose to armored combat vehicles and seeks to accelerate fielding of highly effective, low detectable, low collateral-damage active protection systems (APS).

The committee recommends an increase of \$10.0 million in RDA PE 64852A for the evaluation and integration of electro-optically triggered, low detectable, low collateral-damage APS on Stryker.

Army contract writing system

The budget request included \$124.5 million in Research, Development, Test, and Evaluation, Army (RDA) for PE 65013A Information Technology Development.

The committee is aware that the development of the Army Contract Writing System has underperformed and testing in December rated system usability as unacceptable. As a result, the Army has decided to issue a stop on work for this effort and is modifying its approach to leverage existing technology (specifically the Air Force's Contracting Information Technology system). The committee notes that currently, neither the Program Office Estimate in the Acquisition Decision Memorandum nor the revised cost position for this new approach has been approved.

The committee recommends a decrease of \$15.0 million in RDA for PE 65013A for insufficient program justification for the Army Contract Writing System.

Palletized High Energy Laser

The budget request included \$185.3 million in Research, Development, Test & Evaluation , Army (RDA) in PE 65054A for Emerging Technology Initiatives.

The committee is encouraged with the U.S. Army's Rapid Capability and Critical Technologies Office (RCCTO) efforts to develop a platform-agnostic Palletized High Energy Laser (PHEL) 100 kilowatt capability to meet Counter Unmanned Aerial Systems (C-UAS) mission requirements. The committee recognizes the importance of C-UAS capability across all domains and recommends that RCCTO continue to test, develop, and field a PHEL system to counter our adversaries' UAS threats and significantly decrease risk to our warfighters as soon as possible.

The committee recommends an increase of \$32.0 million in RDA PE 65054A for development of a 100Kw PHEL C-UAS system.

Kill Chain Automation

The budget request included \$265.3 million in Research, Development, Test, and Evaluation, Army (RDA) in PE 65457A for Army Integrated Air and Missile Defense.

The committee notes that incorporating advance kill chain automation through artificial intelligence and machine learning tools, such as the proven Reactor multi-sensor fusion engine, will dramatically improve air and missile defense multi-target tracking, target discrimination and defeat.

The committee recommends an increase of \$2.0 million in RDA PE 65457A for advance kill chain automation development and demonstration of a multi-sensor fusion engine for improved air and missile defense multi-target tracking, target discrimination and defeat.

Testing and evaluation Cyber Center of Excellence Scholarship Pathfinder program

The budget request included \$18.4 million in Research, Development, Test, and Evaluation, Army (RDA) for PE 64256A Threat Simulator Development.

The committee understands that the Department of Defense struggles to recruit and retain individuals with specialized cybersecurity skills, and that, among other areas, such individuals are vital for threat simulation, red teaming, and operationally-representative test and evaluation. The committee is aware that the Department of Defense's Office of the Director, Operational Test and Evaluation, and the broader red team community have sought to mitigate these problems through the Testing and Evaluation Cyber Center of Excellence (TECCE) Scholarship Pathfinder program, which provides college students

with scholarships, internships, and technical research opportunities aligned to red team capability priorities.

Therefore, the committee recommends an increase of \$10.0 million in RDA PE 64256A for the TECCE Scholarship Pathfinder program.

Offensive cyber capabilities

The budget request included \$13.3 million in Research, Development, Test, and Evaluation, Army (RDA) for PE 67150A Intel Cyber Development.

The committee recommends an increase of \$20.0 million in RDA for PE 67150A for the development of offensive cyber warfare capabilities.

Army research and development unfunded requirements

In accordance with section 222a of title 10, United States Code, the Chief of Staff of the Army and the combatant commanders each submitted a list of unfunded requirements. The committee recommends an additional increase of \$116.5 million for research and development items on these unfunded requirements list.

Increase for inflation effects

The committee recommends an increase of \$13.0 billion for inflation effects, of which \$395.6 million is for Research, Development, Test, and Evaluation, Army.

NAVY

All-digital arrays for long-distance applications

The budget request included \$90.1 million in Research, Development, Test, and Evaluation, Navy (RDN) for PE 61103N University Research Initiatives.

The committee is aware that improved long-distance radar detections and swarm counter-unmanned systems (c-UxS) are both critical capabilities for the Department of Defense. The committee is also aware that research measurements for transmitted long-distance power density of phased arrays are often challenging.

Therefore, the committee recommends an increase of \$9.8 million in RDN PE 61103N to conduct research to develop a measurement system necessary for the design of high-powered amplifiers and innovative signal conditioning circuits, to

enhance the use of directed energy systems for the c-UxS mission and long-range radar detection.

Basic research increase

The budget request included \$499.1 million in Research, Development, Test, and Evaluation, Navy (RDN) for PE 61153N Defense Research Sciences.

The committee believes that building fundamental scientific knowledge is vital to fostering innovation and the continued technological superiority of the Navy.

Therefore, the committee recommends an increase of \$30.0 million in RDN PE 61153N for basic research.

Cavitation erosion prevention

The budget request included \$133.4 million in Research, Development, Test, and Evaluation, Navy (RDN) for PE 62123N Force Protection Applied Research.

The committee understands that cavitation-induced erosion of naval propulsors, control devices, and surfaces is a source of structural damage and performance degradation for Navy vessels. The committee believes that full-scale cavitation testing under controlled conditions, as well as other maritime research and development initiatives, would help the Navy better understand and address such erosion.

Therefore, the committee recommends an increase of \$5.0 million in RDN PE 62123N for cavitation erosion prevention.

Energy resilience research collaboration

The budget request included \$133.4 million in Research, Development, Test, and Evaluation, Navy (RDN) for PE 62123N Force Protection Applied Research.

The committee recognizes the need for additional research to assist the Navy in its efforts to create a more robust energy infrastructure and increase energy resilience. The committee believes that leveraging both academia and industry research in these fields is the best way to support the Navy's goals.

Therefore, the committee recommends an increase of \$3.0 million in RDN PE 62123N for energy resilience research collaboration with academic and industry partners.

Relative positioning of autonomous platforms

The budget request included \$133.4 million in Research, Development, Test, and Evaluation, Navy (RDN) for PE 62123N Force Protection Applied Research.

The committee notes that the Navy and Marine Corps are developing unmanned surface vehicles that can be supported by autonomous unmanned aerial vehicles to provide long-range and long-endurance intelligence, surveillance, and reconnaissance and strike capabilities. The committee notes that communication and maneuvering between unmanned systems, as well as docking of manned and unmanned platforms, is a complex problem that involves understanding the relative motion and positioning of each vehicle.

Therefore, the committee recommends an increase of \$5.0 million in RDN PE 62123N for autonomous platform relative positioning technology development.

Workforce and technology for Navy power and energy systems

The budget request included \$133.4 million in Research, Development, Test, and Evaluation, Navy (RDN) for PE 62123N Force Protection Applied Research.

The committee has supported and continues to support investment in next-generation integrated power and energy systems research for future surface combatants. The committee also believes that it is vital to have a skilled technical workforce to support research and development of these technologies.

Therefore, the committee recommends an increase of \$10.5 million in RDN PE 62123N for integrated power and energy system workforce and technology development.

Dual-modality research vessels

The budget request included \$58.1 million in Research, Development, Test, and Evaluation, Navy (RDN) for PE 62747N Undersea Warfare Applied Research.

The committee is aware that the existing glider platforms for ocean science and analysis are not dual-modality platforms and do not provide both surface and subsurface data. The committee is also aware that dual-modality vehicles greatly improve predictive weather and ocean current modeling.

Therefore, the committee recommends an increase of \$2.0 million in RDN PE 62747N for dual-modality research vessels.

Research and workforce partnerships for submarine and undersea vehicle programs

The budget request included \$58.1 million in Research, Development, Test, and Evaluation, Navy (RDN) for PE 62747N Undersea Warfare Applied Research.

The committee believes that stronger partnerships between Navy research labs, academia, and industry, particularly in the field of applied undersea warfare research, are necessary to ensure successful technology transition for submarine and unmanned undersea vehicle capabilities and workforce development.

Therefore, the committee recommends an increase of \$5.0 million in RDN PE 62747N for research and workforce partnerships for submarine and undersea vehicle programs.

Navy research and development unfunded requirements

In accordance with section 222a of title 10, United States Code, the Chief of Naval Operations of the Navy, the Commandant of the Marine Corps, and the combatant commanders each submitted a list of unfunded requirements. The committee recommends an additional increase of \$330.6 million for research and development items on these unfunded requirements list.

Low-Cost attributable aircraft technology

The budget request included \$280.3 million in Research, Development, Test, and Evaluation, Navy (RDN) for PE 63640M USMC Advanced Technology Demonstration.

The committee supports the Marine Corps' efforts to prototype and demonstrate low-cost, attributable, unmanned aircraft technologies in operationally representative environments for collaborative, manned, and unmanned teaming. The committee believes that integration and technology demonstrations reduce the risk and time require to transition technologies into operational systems.

Therefore, the committee recommends an increase of \$50.0 million in RDN PE 63640M for low-cost attributable aircraft technology.

Silicon carbide power modules

The budget request included \$176.6 million in Research, Development, Test, and Evaluation, Navy (RDN) for PE 63573N Advanced Surface Machinery Systems.

The committee continues to support recommendations in the 2019 Naval Power and Energy Systems Technology Development Roadmap for development of advanced power electronics, including silicon carbide power modules, which can reduce the size and

weight of power conversion modules and other electronic systems needed to power advanced sensors and weapon systems.

Therefore, the committee recommends an increase of \$11.6 million in RDN PE 63573N for continued development of silicon carbide power modules.

Advanced composite materials for submarine construction

The budget request included \$336.0 in Research, Development, Test, and Evaluation, Navy (RDN) for PE 63595N Ohio Replacement.

The committee supports the development and testing of composite materials for Navy submarine propulsor applications. The committee believes composites could provide high-strength, lightweight alternatives to existing materials in use.

Therefore, the committee recommends an increase of \$15.0 million in RDN for PE 63595N for further development of composite materials for submarine applications.

Large Unmanned Undersea Vehicle continuation

The budget request did not include funding in Research, Development, Test, and Evaluation, Navy (RDN) for PE 64031N Large Unmanned Undersea Vehicle.

Despite program schedule underperformance, the committee believes the Snakehead Large Displacement Unmanned Undersea Vehicle could provide an important capability to the fleet once fielded.

Therefore, the committee recommends an increase of \$100.0 million in RDN for PE 64031N for Large Unmanned Undersea Vehicle.

Stratospheric balloon research

The budget request included \$45.9 million in Research, Development, Test and Evaluation, Navy (RDN) for PE 64378N Naval Integrated Fire Control-Counter Air Systems but no funding to continue stratospheric balloon research.

The committee recognizes the potential contribution of stratospheric balloons to support command, control, communications, computers, intelligence, surveillance, and reconnaissance (C4ISR) missions. The National Defense Authorization Act for Fiscal Year 2022 (Public Law 117-81) authorized an additional \$6.5 million for the Trippwire high altitude demonstration program to further develop Trippwire, and to conduct testing and evaluation activities.

The committee understands that the stratospheric balloon portions of the Trippwire program are ready to transition to the Navy for platform- and payload-specific development activities, including developing systems for mission planning, logistics, and training. However, the Navy budget includes no funding to support this transition in fiscal year 2023.

Therefore, the committee recommends an additional \$15.0 million in PE 64378N to support transition activities in fiscal year 2023.

Advanced Sensors Application Program

The budget request did not include funding in Research, Development, Test, and Evaluation, Navy (RDN) for PE 64419N Advanced Sensors Application Program.

The committee is disappointed that funding was not requested. The committee believes this important work should continue within the Naval Air Systems Command.

Therefore, the committee recommends an increase of \$13.0 million in RDN PE 64419N for the Advanced Sensors Application Program.

Advanced undersea capability development

The budget request included \$307.6 million in Research, Development, Test, and Evaluation, Navy (RDN) for PE 64558N New Design SSN.

The committee is concerned by the budget request's lack of funding to continue certain advanced undersea capability investments that the committee believes are critical to maintaining undersea superiority.

Accordingly, the committee recommends an increase of \$188.9 million in RDN PE 64558N to continue certain advanced undersea capability investments.

Cyber Supply Chain Risk Management

The budget request included \$290.4 million in Research, Development, Test, and Evaluation, Navy (RDN) for PE 65013N Information Technology Development.

The committee believes protecting Department of Defense (DOD) supply chains from disruption and adversary exploitation is critical to meet national security needs, as emphasized by the DOD's February 2022 report, titled "Securing Defense-Critical Supply Chains." The committee believes it is essential for the DOD and contractors in the defense industrial base to acquire hardware and software bills of materials from vendors to

confirm which countries (and what products) are contributing to their critical supply chains. Providing the DOD with this data can prevent vulnerabilities and the introduction of bad actors into supply chains.

The committee recommends an increase of \$5.0 million in RDN PE 65013N for Cyber Supply Chain Risk Management.

Electronic Procurement System

The budget request included \$290.4 million in Research, Development, Test, and Evaluation, Navy (RDN) for PE 65013N Information Technology Development.

The committee is aware that recent contract performance issues with the electronic Procurement System (ePS), the Navy's contract writing system, have led the Navy to discontinue their current contract and seek to restructure the program under the Air Force's Contracting Information Technology program. As the Navy's plan for that restructure is still a work in progress, the funding originally requested is excess to need.

Therefore, the committee recommends a decrease of \$15.0 million in RDN for PE 65013N for insufficient program justification for ePS.

Sea-Launched Cruise Missile - Nuclear research

The budget request included \$132.7 million in Research, Development, Test, and Evaluation, Navy (RDN) in PE 24229N for Tomahawk and Tomahawk Mission Planning Center, but included no funding for the Sea-Launched Cruise Missile-Nuclear (SLCM-N).

The committee recommends an increase of \$25.0 million in RDN for PE 24229N for continued research on the SLCM-N.

Autonomous maritime patrol aircraft

The budget request included \$9.8 million in Research, Development, Test, and Evaluation, Navy (RDN) for PE 35242M Unmanned Aerial Systems Payloads.

The committee is concerned by consistent testimony by combatant commanders that existing intelligence, surveillance, and reconnaissance assets are insufficient to meet all combatant commander requirements.

Therefore, the committee recommends an increase of \$2.0 million in RDN for PE 35242M for autonomous maritime patrol aircraft development.

Increase for inflation effects

The committee recommends an increase of \$13.0 billion for inflation effects, of which \$409.2 million is for Research, Development, Test, and Evaluation, Navy.

AIR FORCE

Basic research increase

The budget request included \$375.3 million in Research, Development, Test, and Evaluation, Air Force (RDAF) for PE 61102F Defense Research Sciences.

The committee believes that building fundamental scientific knowledge is vital to fostering innovation and the continued technological superiority of the Air Force.

Therefore, the committee recommends an increase of \$30.0 million in RDAF PE 61102F for basic research.

High energy synchrotron X-ray research

The budget request included \$134.8 million in Research, Development, Test, and Evaluation, Air Force (RDAF), for PE 62102F Materials.

The committee notes the value of research using high-energy X-ray beam lines to support Air Force and Department of Defense modernization needs. The committee believes this research is critical for enabling understanding of high-performance materials for extreme environments, hypersonic systems, tactical aircraft, metal fatigue processes, materials produced using additive manufacturing technologies, and technical workforce development.

Therefore, the committee recommends an increase of \$5.0 million in RDAF PE 62102F for high energy synchrotron X-ray research.

National network for microelectronics research and development activities

The budget request included \$192.7 million in Research, Development, Test, and Evaluation, Air Force (RDAF) for PE 62204F Aerospace Sensors.

The committee is concerned by the Nation's reliance on supply chains abroad, particularly with regard to semiconductor manufacturing, and believes that additional funds to conduct activities under subsection (b) of section 9903 of the William M. (Mac) Thornberry National Defense Authorization Act for Fiscal Year 2021 (Public Law 116-283) would help in that regard.

Therefore, the committee recommends an increase of \$70.0 million in RDAF PE 62204F for national network for microelectronics research and development activities.

Convergence Lab Center activities

The budget request included \$137.3 million in Research, Development, Test, and Evaluation, Air Force (RDAF) for PE 62602F Conventional Munitions.

The committee believes that the Convergence Lab Center, funded by the Air Force Research Laboratory munitions directorate, provides substantial workforce development in key Department of Defense research areas, opening pathways for students at leading universities to drive advances in technologies critical to the Department.

Therefore, the committee recommends an increase of \$5.0 million in RDAF PE 62602F for Convergence Lab Center activities.

Space Technology realignment of funds

The budget request included \$109.3 million in Research, Development, Test, and Evaluation, Air Force (RDAF) for PE 62605F Directed Energy Technology.

The committee has been informed by the Air Force that updated program estimates require realignment of funds.

Therefore, the committee recommends a decrease of \$8.4 million in RDAF for PE 62605F and a corresponding increase of \$8.4 million in Research, Development, Test, and Evaluation, Space Force for PE 1206601SF Space Technology.

Future Air Force integrated technology demos reduction

The budget request included \$152.6 million in Research, Development, Test, and Evaluation, Air Force (RDAF) for PE 63032F Future Air Force Integrated Technology Demos.

The committee believes the growth in this program element above the total enacted levels for fiscal year 2022 to be unjustified and that some funds requested for this program element would be more productively spent elsewhere.

Therefore, the committee recommends a decrease of \$50.0 million in RDAF PE 63032F.

Metals Affordability Initiative

The budget request included \$29.1 million in Research, Development, Test, and Evaluation, Air Force (RDAF) for PE 63112F Advanced Materials for Weapon Systems.

The committee believes that the existing Metals Affordability Initiative has provided substantial return on taxpayer investment, as well as significant improvements to metal manufacturing for Air Force needs.

Therefore, the committee recommends an increase of \$5.0 million for RDAF PE 63112F for metals affordability research.

Aerospace Propulsion and Power Technology realignment of funds

The budget request included \$8.5 million in Research, Development, Test, and Evaluation, Air Force (RDAF) for PE 63211F Aerospace Technology Dev/Demo.

The committee has been informed that funding for this program should have been requested in a different program element.

Therefore, the committee recommends a decrease of \$8.5 million in PE 63211F and a corresponding increase of \$8.5 million in PE 63216F for Aerospace Propulsion and Power Technology.

Unmanned semi-autonomous adversary aircraft

The budget request included \$54.7 million in Research, Development, Test and Evaluation, Air Force (RDAF) PE 63211F Aerospace Technology Development/Demonstration.

The committee recognizes that threat-relevant, high-end adversary air capabilities are an important part of range modernization efforts, and especially important to training aircrews in advanced fighters. The committee recognizes that many emerging technologies, such as autonomous flight and manned-unmanned teaming, are changing the shape of possibilities available in this area. The committee believes these efforts should continue.

Therefore, the committee recommends an increase of \$20.0 million in RDAF PE 603211F to accelerate development of unmanned adversary air capabilities, define manned-unmanned teaming concepts of operations, and build prototype aircraft that can be used in training.

Hypersonics Prototyping realignment of funds

The budget request included \$431.9 million in Research, Development, Test, and Evaluation, Air Force (RDAF) for PE 64033F Hypersonics Prototyping.

The committee has been informed by the Air Force that updated program estimates require realignment of funds.

Therefore, the committee recommends a decrease of \$316.9 million for PE 0604033F and a corresponding increase of \$316.9 million in PE 64183F Hypersonics Prototyping - Hypersonic Attack Cruise Missile.

Air Force research and development unfunded requirements

In accordance with section 222a of title 10, United States Code, the Chief of Staff of the Air Force, the Chief of Space Operations, and the combatant commanders each submitted a list of unfunded requirements. The committee recommends an additional increase of \$1.0 billion for research and development items on these unfunded requirements list.

Cyber Resiliency of Weapon Systems

The budget request included \$44.5 million in Research, Development, Test, and Evaluation, Air Force (RDAF) for PE 64414F Cyber Resilience of Weapons Systems-ACS.

The committee notes that the budget request reflects a reduction in the Cyber Resilience of Weapons Systems budget and recommends an increase of \$25.0 million in RDAF for PE 64414F to restore funding for this weapons system cybersecurity program to the fiscal year 2022 level.

Air Force operational energy increase

The budget request included \$649.5 million in Research, Development, Test and Evaluation, Air Force (RDAF) for PE 64858F Tech Transition Program.

The committee continues to support operational energy improvements, like KC-135 drag reduction, that would enable the Air Force to continue its KC-135 winglet program in addition to KC-135 drag reduction efforts, like aft body drag, conformal antenna, and vertical windshield wipers.

Accordingly, the committee recommends an increase of \$10.0 million in RDAF PE 64858F for KC-135 draft reduction.

Hybrid autonomous maritime expeditionary logistics

The budget request included \$649.5 million in Research, Development, Test, and Evaluation, Air Force (RDAF) for PE 64858F Tech Transition Program.

The committee is supportive of emerging operational concepts relating to expeditionary advanced base operations, but remains concerned about the logistical requirements of such operations.

Therefore, the committee recommends an increase of \$2.0 million in RDAF for PE 64858F for the development of hybrid autonomous maritime expeditionary logistics.

Tech Transition Program realignment of funds

The budget request included \$649.5 million in Research, Development, Test, and Evaluation, Air Force (RDAF) for PE 64858F Tech Transition Program.

The committee has been informed by the Air Force that updated program estimates require realignment of funds.

Therefore, the committee recommends a decrease of \$15.5 million in RDAF for PE 64858F and a corresponding increase of \$15.5 million in RDAF for PE 64860F Operational Energy and Installation Resilience.

Artificial intelligence systems and applications for United States Cyber Command

The budget request included \$234.6 million for Research, Development, Test, and Evaluation, Air Force (RDAF) in PE 36250F Cyber Operations Technology Support.

The committee encourages U.S. Cyber Command to increase their efforts to develop and adopt artificial intelligence systems and applications for their cyber missions.

Therefore, the committee recommends an increase of \$50.0 million in RDAF for PE 36250F for artificial intelligence systems and applications for U.S. Cyber Command.

Hunt forward operations

The budget request included \$234.6 million for Research, Development, Test, and Evaluation, Air Force (RDAF) in PE 36250F Cyber Operations Technology Support.

The committee strongly supports the contributions that hunt forward operations have made to the persistent engagement cyber strategy of the Department of Defense.

Therefore, the committee recommends an increase of \$28.8 million in RDAF for PE 36250F for hunt forward operations.

Major Range and Test Facility Base improvements

The budget request included \$44.7 million in Research, Development, Test, and Evaluation, Air Force (RDAF) in PE 64759F Major Test and Evaluation Investment.

The committee understands that the test and training range in the eastern Gulf of Mexico has aging infrastructure and

inadequate instrumented airspace to test the newest generation of weapons and munitions. The committee is concerned that open-air test ranges of the Major Range and Test Facility Base are not capable of supporting the full spectrum of development testing required for current and next generation technologies, including hypersonic and autonomous systems.

Therefore, the committee recommends an increase of \$30.0 million in RDAF PE 64759F for Major Range and Test Facility Base improvements.

Distributed cyber warfare operations realignment of funds

The budget request included \$37.3 million for Research, Development, Test, and Evaluation, Air Force (RDAF), for PE 28087F Distributed Cyber Warfare Operations.

The Air Force has requested a realignment of funding to realign previously duplicative funding.

Therefore, the committee recommends:

- (1) A decrease of \$37.3 million in PE 28087F Distributed Cyber Warfare Operations;
- (2) An increase of \$19.3 million in PE 65827F Acquisition Workforce - Global Vigilance and Combat Systems;
- (3) An increase of \$9.0 million in PE 65829F Acquisition Workforce - Cyber, Network, and Business Systems; and
- (4) An increase of \$9.0 million in PE 65831F Acquisition Workforce - Capability Integration.

Air Force Civilian Acquisition Workforce pay realignment of funds

The Air Force has requested a realignment of funding in Research, Development, Test, and Evaluation, Air Force (RDAF) to better address civilian pay disconnects within the Acquisition Workforce program elements.

Therefore, the committee recommends:

- (1) A decrease of \$25.3 million for PE 65832F Acquisition Workforce - Advanced Program Technology;
- (2) A decrease of \$4.8 million for PE 65833F Acquisition Workforce - Nuclear Systems;
- (3) An increase of \$8.7 million in PE 65827F Acquisition Workforce - Global Vigilance and Combat Systems;
- (4) An increase of \$5.2 million in PE 65829F Acquisition Workforce - Cyber, Network, and Business Systems;
- (5) An increase of \$15.0 million in PE 65831F Acquisition Workforce - Capability Integration; and

(6) An increase of \$1.3 million in PE 65898F Management Headquarters - Research and Development.

Next-generation Nuclear Command, Control, and Communications architecture

The budget request included \$15.6 million in Research, Development, Test, and Evaluation, Air Force (RDAF) in PE 33255F for Command, Control, Communication, and Computers (C4) - STRATCOM.

Following the 2018 Nuclear Posture Review, the Department of Defense designated the Commander, U.S. Strategic Command, as the Nuclear Command, Control, and Communications (NC3) Enterprise Lead for the Department, with responsibility for designing and developing a future architecture for the NC3 system.

The committee recommends an increase of \$5.0 million in PE 33255F to support additional design and prototype activities at the Rapid Engineering Architecture Collaboration Hub, promoting development of the next-generation NC3 architecture.

Nuclear Command, Control, and Communications assessment

The budget request included \$15.6 million in Research, Development, Test, and Evaluation, Air Force (RDAF) in PE 33255F for Command, Control, Communication, and Computers (C4) - STRATCOM.

The committee recommends an increase of \$4.5 million in RDAF for PE 33255F for a Nuclear Command, Control, and Communications assessment.

E-7 acceleration

The budget request includes \$239.7 million in Research, Development, Test & Evaluation, Air Force (RDAF) in PE 27417F Airborne Warning and Control System (AWACS). The Air Force has announced that the new airframe will be the E-7 Wedgetail.

The committee is concerned that the Air Force's current plan to procure and field a prototype E-7 aircraft is too slow to avoid diminishing capacity to conduct airborne command and control operations for too long. The committee understands that with additional resources the Air Force could acquire a second test aircraft sooner, leading to a reduction in the amount of time required to complete testing and certification of the E-7.

The committee therefore recommends an increase of \$301.0 million in RDAF PE 27417F to accelerate production of both

prototype E-7 aircraft to support the airborne command and control mission.

Enterprise Logging and Cyber Situational Awareness Refinery

The budget request included \$8.4 million in Research, Development, Test, and Evaluation, Air Force (RDAF) in PE 28088F Defensive Cyberspace Operations.

The committee recommends an increase of \$17.8 million in RDAF for PE 28088F for the further development of the Enterprise Logging Ingest & Cyber Situational Awareness Refinery program.

Centropy program reduction

The budget request included \$80.7 million for Research, Development, Test, and Evaluation, Air Force (RDAF) in PE 28097F Joint Cyber Command and Control (JCC2).

The committee recommends a decrease of \$5.0 million in RDAF for PE 36250F for the Centropy program.

Increase for inflation effects

The committee included \$13.0 billion for inflation effects, of which \$1.5 billion were for Research, Development, Test, and Evaluation, Air Force and Research, Development, Test, and Evaluation, Space Force.

Advanced hybrid rocket engine development

The budget request included \$234.7 million for Research, Development, Test, and Evaluation, Space Force (RDSF), for PE 1206601SF Space Technology.

The committee recognizes the need for further investments in the development and testing of hybrid rocket engines.

Therefore, the committee recommends an increase of \$4.0 million in RDSF for PE 1206601SF for advanced hybrid rocket engine development.

Space Advanced Technology Development and Demonstration realignment of funds

The budget request included \$103.4 million in Research, Development, Test, and Evaluation, Space Force (RDSF) for PE 1206616SF Space Advanced Technology Development/Demo in budget activity 03, and \$2.8 million in PE 1206616SF in budget activity 06.

The committee has been informed by the Air Force that the correction of a programming error requires a realignment of funds.

Therefore, the committee recommends a decrease of \$2.8 million in RDSF PE 1206616SF budget activity 06 and a corresponding increase of \$2.8 million in RDSF PE 1206616SF budget activity 03.

Digitization of PARCS radar for space domain awareness

The budget request included \$230.6 million in Research, Development, Test, and Evaluation, Space Force (RDSF), for PE 1206425SF .

The committee recommends an increase of \$3.0 million in RDSF, for PE 1206425SF Space Situational Awareness Systems for digitization efforts of the Perimeter Acquisition Radar Characterization System radar space domain awareness data.

Next Generation Overhead Persistent Infrared - Ground realignment of funds

The budget request included \$3.5 billion in Research, Development, Test, and Evaluation, Space Force (RDSF) for PE 1206442SF Next Generation Overhead Persistent Infrared.

The committee has been informed by the Air Force that updated program estimates require realignment of funds to comply with congressional direction.

Therefore, the committee recommends a decrease of \$612.5 million in PE 1206442SF and a corresponding increase of \$612.5 million in PE 1206440SF Next Generation Overhead Persistent Infrared - Ground.

Next Generation Overhead Persistent Infrared - Geosynchronous realignment of funds

The budget request included \$3.5 billion in Research, Development, Test, and Evaluation, Space Force (RDSF) for PE 1206442SF Next Generation Overhead Persistent Infrared.

The committee has been informed by the Air Force that updated program estimates require realignment of funds to comply with congressional direction.

Therefore, the committee recommends a decrease of \$1.7 billion in PE 1206442SF and a corresponding increase of \$1.7 billion in PE 1206443SF Next Generation Overhead Persistent Infrared - Geosynchronous.

Next Generation Overhead Persistent Infrared - Polar realignment of funds

The budget request included \$3.5 billion in Research, Development, Test, and Evaluation, Space Force (RDSF) for PE 1206442SF Next Generation Overhead Persistent Infrared.

The committee has been informed by the Air Force that updated program estimates require realignment of funds to comply with congressional direction.

Therefore, the committee recommends a decrease of \$899.2 million in PE 1206442SF and a corresponding increase of \$899.2 million in PE 1206444SF Next Generation Overhead Persistent Infrared - Polar.

Resilient Missile Warning Missile Tracking - Low Earth Orbit realignment of funds

The budget request included \$390.6 million in Research, Development, Test, and Evaluation, Space Force (RDSF) for PE 1206448SF Resilient Missile Warning Missile Tracking - Integrated Ground Segment.

The committee has been informed by the Air Force that updated program estimates require realignment of funds.

Therefore, the committee recommends a decrease of \$25.8 million for PE 1206448SF and a corresponding increase of \$25.8 million in 1206446SF Resilient Missile Warning Missile Tracking - Low Earth Orbit.

Resilient Missile Warning Missile Tracking - Medium Earth Orbit realignment of funds

The budget request included \$390.6 million in Research, Development, Test, and Evaluation, Space Force (RDSF) for PE 1206448SF Resilient Missile Warning Missile Tracking - Integrated Ground Segment.

The committee has been informed by the Air Force that updated program estimates require realignment of funds.

Therefore, the committee recommends a decrease of \$164.8 million for PE 1206448SF and a corresponding increase of \$164.8 million in 1206447SF Resilient Missile Warning Missile Tracking - Medium Earth Orbit.

Upgrades for Perimeter Acquisition Radar Attack Characterization System

The budget request included \$18.6 million for Research, Development, Test, and Evaluation, Space Force (RDSF) in PE 1203873SF for Ballistic Missile Defense Radars.

The committee recognizes the Perimeter Acquisition Radar Attack Characterization System (PARCS) radar meets a key requirement in situational awareness for defense of the homeland, but that the aging equipment is in immediate need of major upgrades to maintain its capability.

Therefore, the committee recommends an increase of \$5.0 million in RDSF for PE 1203873SF to begin upgrades of analog systems to digital systems for the PARCS radar.

DEFENSE WIDE

Defense established program to stimulate competitive research

The budget request included \$62.4 million in Research, Development, Test, and Evaluation, Defense-wide (RDDW) for PE 61110D8Z Basic Research Initiatives.

The committee is very supportive of the Defense Established Program to Stimulate Competitive Research (DEPSCoR) program, which helps build the national infrastructure for research and education by funding research activities in science and engineering areas responsive to the needs of national defense. Participation in this program is limited to states that meet eligibility criteria as outlined in the authorizing language from previous National Defense Authorization Acts. The program is intended to increase the number of university researchers and improve the capabilities of institutions of higher education in eligible jurisdictions to perform competitive research relevant to the Department of Defense.

The committee also views DEPSCoR as a component in any effort by the Department of Defense (DOD) to identify, shape, and foster innovation ecosystems that support DOD research and technology needs. Along with other funding programs and authorities available to the Department, DEPSCoR should be considered as part of the innovation ecosystem strategy described elsewhere in this Act.

Therefore, the committee recommends an increase of \$25.0 million in RDDW PE 61110D8Z for the DEPSCoR program.

Historically black colleges and universities and minority institutions

The budget request included \$33.3 million in Research, Development, Test, and Evaluation, Defense-wide (RDDW) for PE

61228D8Z Historically Black Colleges and Universities/Minority Institutions.

The committee believes that it is imperative that the United States develop and maintain a large and diverse science, technology, engineering, and mathematics (STEM) workforce with expertise in critical emerging technology areas, including artificial intelligence and autonomy, to support evolving threats and innovate with our global competitors. The committee believes that a large and diverse STEM talent pool is critical to fostering innovation, diversity of thought, and technical agility to sustain the Department of Defense's (DOD) global competitive edge. Additional funding would help boost Historically Black Colleges and Universities/Minority Institutions (HBCU/MIs) to "very high research activity status," also known as "R1" status, which would provide increased funding available to the universities to provide more opportunities to historically underrepresented students and help grow the STEM talent pool.

Additionally, the committee also sees the HBCU/MI program as a component in any effort by the Department of Defense to identify, shape, and foster innovation ecosystems that support DOD research and technology needs. Along with other funding programs and authorities available to the Department, the HBCU/MI program should be considered as part of the innovation ecosystem strategy described elsewhere in this Act.

Therefore, the committee recommends an increase of \$30.0 million in RDDW PE 61228D8Z to support Historically Black Colleges and Universities/Minority Institutions' STEM programs.

Open radio access networks for next generation wireless experimentation

The budget request included \$20.6 million in Research, Development, Test, and Evaluation, Defense-wide (RDDW) for PE 62230D8Z Defense Technology Innovation.

The committee is supportive of open radio access network (ORAN) efforts and believes ORAN will benefit the Department of Defense's fifth generation and next generation applications through greater interoperability with and upgradability from multiple vendors.

Therefore, the committee recommends an increase of \$40.0 million in RDDW for PE 62230D8Z to support additional ORAN efforts underway.

Superconducting microelectronics

The budget request included \$46.2 million in Research, Development, Test, and Evaluation, Defense-wide (RDDW) for PE 62234D8Z Lincoln Laboratory Research Program.

The committee believes that the Nation must work to retain technological advantage relative to adversaries and potential adversaries, particularly in critical fields such as semiconductor development. The committee understands that superconducting digital logic is a promising approach for future microprocessor development and believes that further work in the area is warranted.

Therefore, the committee recommends an increase of \$2.0 million in RDDW PE 62234D8Z for further development work on superconducting microelectronics.

Artificial intelligence and autonomy for cybersecurity and cyberspace operations challenges

The budget request included \$388.3 million in Research, Development, Test, and Evaluation, Defense-wide (RDDW) for PE 62303E Information & Communications Technology.

The committee recommends an increase of \$30.0 million in RDDW for PE 62303E for the application of artificial intelligence and autonomy to cybersecurity and cyberspace operations challenges.

National Security Commission on Artificial Intelligence Recommendations

The budget request did not include funds to support the implementation of recommendations from the National Security Commission on Artificial Intelligence.

The committee recommends an increase of \$75.0 million in Research, Development, Test, and Evaluation, Defense-wide (RDDW) for PE 62303E for implementing the National Security Commission on Artificial Intelligence recommendations.

Underexplored systems for novel computing

The budget request included \$388.3 million in Research, Development, Test, and Evaluation, Defense-wide (RDDW) for PE 62303E Information & Communications Technology.

The committee recommends an increase of \$20.0 million in RDDW for PE 62303E for underexplored systems for novel computing.

Cyber consortium seedling funding

The budget request included \$17.3 million in Research, Development, Test, and Evaluation, Defense-wide (RDDW) for PE 62668D8Z Cyber Security Research.

The committee is very supportive of the recently established cyber research consortia. The committee believes that additional funding would support seedling research initiatives out of the request for information process to quickly fund promising concepts with on-ramps into other science and technology organizations' processes for sustained funding. The committee also believes that this funding could be used for the development of resources that support closer collaboration between academic research and the Department of Defense, including the creation, in accordance with responsible artificial intelligence standards, of standardized, non-duplicative, publicly releasable datasets for development and test; curated challenge problems; support for operational experimentation with mission partners; support to other transition pathways; and other key gaps as identified through the request for information process.

Therefore, the committee recommends an increase of \$25.0 million in RDDW PE 62668D8Z to support cyber consortium seedling funding.

ReVector

The budget request included \$353.0 million in Research, Development, Test, and Evaluation, Defense-wide (RDDW) for PE 62715E Materials and Biological Technology.

The committee recommends an increase of \$2.3 million in RDDW for PE 62715E for ReVector.

Optical reconnaissance sensors

The budget request included \$141.6 million in Research, Development, Test, and Evaluation, Defense-wide (RDDW) for PE 63338D8Z Defense Modernization and Prototyping.

The committee understands intelligence, surveillance, and reconnaissance to be a critical capability area for the Department of Defense and believes that improved airborne optical reconnaissance sensors provide a valuable passive detection and surveillance capability to the joint force.

Therefore, the committee recommends an increase of \$5.0 million in RDDW PE 63338D8Z for optical reconnaissance sensors.

Defense Innovation Unit National Security Innovation Capital

The budget request included \$42.9 million in Research, Development, Test, and Evaluation, Defense-wide (RDDW) for PE 63342D8Z Defense Innovation Unit (DIU).

The committee applauds the Department of Defense for providing for investment for the National Security Innovation Capital (NSIC) program in the future years defense program. The committee supports the mission of the NSIC to help invest in key technology sectors, as well as make strategic investments to prevent emerging technologies and companies from falling under the influence of potential adversarial governments, and views the NSIC as a necessary tool in the Government's toolbox of innovation. However, the committee is also aware that the DIU was required to take dedicated funding for the NSIC out of its existing budget. The committee is concerned that this approach is detrimental to the other key function of the DIU to invest more broadly in commercial hardware of benefit to the Department of Defense. The committee is concerned that such a move is short-sighted.

Therefore, the committee recommends an increase of \$15.0 million in RDDW PE 63342D8Z to provide the Defense Innovation Unit National Security Innovation Capital program a dedicated funding stream.

Emerging biotechnologies

The budget request included \$109.5 million in Research, Development, Test, and Evaluation, Defense-wide (RDDW) for PE 63375D8Z Technology Innovation.

The committee recommends an increase of \$5.0 million in RDDW for PE 63375D8Z for emerging biotechnologies.

Assault Breaker II and Live, Virtual Constructive testbed

The budget request included \$678.6 million in Research, Development, Test, and Evaluation, Defense-wide (RDDW) in PE 63766E Network-Centric Warfare Technology.

The committee believes that the Assault Breaker II initiative and the Live, Virtual Constructive testbed of the Defense Advanced Research Agency are vital for deterrence and defense in the U.S. Indo-Pacific theater of operations.

Therefore, the committee recommends an increase of \$120.0 million in RDDW for PE 63766E for Assault Breaker II and \$80.0 million in RDDW for PE 63648D8Z for the Live, Virtual Constructive testbed.

Artificial intelligence for predictive maintenance

The budget request included \$256.1 million in Research, Development, Test, and Evaluation, Defense-wide (RDDW) for PE 63680D8Z Defense-Wide Manufacturing Science and Technology Program.

The committee is aware that Condition-Based Maintenance Plus is being considered by the Department of Defense to support vehicle, equipment, aircraft, and ship maintenance using predictive methods that combine historical and on-board diagnostics to anticipate needed repairs. The committee believes that artificial intelligence and machine learning algorithms may provide improved options to maintainers to inform maintenance needs and reduce vehicle downtimes.

Therefore, the committee recommends an increase of \$3.0 million in RDDW PE 63680D8Z for artificial intelligence for predictive maintenance applications.

BioMADE

The budget request included \$256.1 million in Research, Development, Test, and Evaluation, Defense-wide (RDDW) for PE 63680D8Z Defense-Wide Manufacturing Science and Technology Program.

The committee recommends an increase of \$30.0 million in RDDW PE 63680D8Z for BioMADE.

Internet of things and operational technology asset identification and management

The budget request included \$256.1 million in Research, Development, Test, and Evaluation, Defense-wide (RDDW) for PE 63680D8Z Defense-Wide Manufacturing Science and Technology Program.

The committee understands the importance of research partnerships for cybersecurity capability and workforce development, particularly in order to study the cybersecurity vulnerabilities of Internet of Things (IoT) and operational technology (OT) devices used on Army installations. The committee believes that it is important to create opportunities to study the cybersecurity vulnerabilities throughout IoT and OT devices, such as those used on Army installations and identified in the Army Installations Strategy. Additionally, the committee encourages leveraging ongoing collaboration to accomplish these efforts.

Therefore, the committee recommends an increase of \$5.0 million in RDDW PE 63680D8Z for IoT and OT asset identification and management.

Large scale advanced manufacturing

The budget request included \$256.1 million in Research, Development, Test, and Evaluation, Defense-wide (RDDW) for PE 63680D8Z Defense-Wide Manufacturing Science and Technology Program.

The committee believes the combination of high-performance computing and additive manufacturing may dramatically accelerate development and acquisition processes by enabling rapid prototyping and experimentation.

Therefore, the committee recommends an increase of \$5.0 million in RDDW PE 63680D8Z for high-performance computing-enabled large scale advanced manufacturing.

DARPA LogX advanced supply chain mapping

The budget request included \$505.1 million in Research, Development, Test, and Evaluation, Defense-wide (RDDW) for PE 63760E Command, Control and Communications.

The committee recommends an increase of \$10.0 million in RDDW for PE 63760E for the LogX advanced supply chain mapping program.

Non-kinetic and cyber modeling and simulation

The budget request included \$678.5 million in Research, Development, Test, and Evaluation, Defense-wide (RDDW) for PE 63766E Network-Centric Warfare Technology.

The committee recommends an increase of \$20.0 million in RDDW for PE 63766E for non-kinetic and cyber modeling and simulation and an additional increase of \$20.0 million in RDDW for 63766E for DARPA network-centric warfare technology.

Increase for tristructural-isotropic fuel

The budget request included \$180.2 million in Research, Development, Test, and Evaluation, Defense-wide (RDDW) for PE 64055D8Z Operational Energy Capability Improvement.

The committee understands that tristructural-isotropic (TRISO) fuel is one of the most advanced nuclear fuels, has the potential to be a key enabler for the next generation of nuclear reactors, and is the baseline fuel source in several current advanced reactors under development with the Department of Defense's Strategic Capabilities Office's Project Pele program.

Therefore, the committee recommends an increase of \$10.0 million in RDDW for PE 64055D8Z for TRISO fuel in support of Project Pele.

Sustainable Technology Evaluation and Demonstration program

The budget request included \$84.6 million in Research, Development, Test, and Evaluation, Defense-wide (RDDW) for PE 63851D8Z Environmental Security Technical Certification Program, of which \$3.0 million was for the Sustainable Technology Evaluation and Demonstration (STED) program.

The committee is concerned with plastic waste generated by the United States Armed Forces in both the continental United States environments and austere locations overseas. The committee recognizes the long-term challenges this plastic waste creates for waste disposal and local communities, as well as potential impacts to servicemember health. The committee lauds the work of the STED program to compare existing commercially available replacement for products, including plastic items, against military use requirements to reduce this waste stream.

Therefore, the committee recommends an increase of \$5.0 million in RDDW, for PE 63851D8Z to support the STED program.

Defense-wide research and development unfunded requirements

In accordance with section 222a of title 10, United States Code, the combatant commanders each submitted a list of unfunded requirements. The committee recommends an additional increase of \$402.9 million for research and development items on these unfunded requirements list.

5G and Open Radio Access Networks transition

The budget request included \$249.6 million in Research, Development, Test, and Evaluation, Defense Wide (RDDW) for PE 64011D8Z Next Generation Information Communications Technology (5G).

The committee is supportive of open radio access network (ORAN) efforts and believes ORAN will benefit the Department of Defense's 5G applications through greater interoperability and upgradability from multiple vendors.

Therefore, the committee recommends an increase of \$130.0 million in RDDW for PE 64011D8Z to support 5G experimentation, transition, and ORAN activities.

Diode-Pumped Alkali Laser development

The budget request did not include funding in Research, Development, Test, and Evaluation, Defense-wide (RDDW) for PE 64115C Technology Maturation Initiatives.

The Missile Defense Agency, with the support of Lawrence Livermore National Laboratory, has been developing the next generation of high energy lasers for missile defense. The committee believes that additional emphasis should be placed upon the pursuit of potential directed energy options for advancing U.S. missile defense capabilities.

Therefore, the committee recommends an increase of \$5.0 million in RDDW for PE 64115C to support further model-based system engineering and analysis, ground propagation range testing, design of small size/weight/power laser systems, procurement of long-lead items, and frontend test-bed design.

Hypersonic targets

The budget request did not include funding in Research, Development, Test, and Evaluation, Defense-wide (RDDW) for PE 64115C for Technology Maturation Initiatives.

The Missile Defense Agency is developing targets to support hypersonic defense interceptor testing and evaluation. Several hypersonic glide vehicle concepts have been selected for providing the basis for the hypersonic target development program.

Therefore, the committee recommends an increase of \$5.0 million in RDDW for PE 64115C to accelerate technology maturation for advanced hypersonic threat-representative targets for use in testing hypersonic missile defenses.

International cooperation for hypersonics

The budget request included \$179.2 million in Research, Development, Test, and Evaluation, Defense-wide (RDDW) for PE 64331D8Z Rapid Prototyping Program.

The committee recommends an increase of \$30.0 million in RDDW for PE 64331D8Z for international cooperation for hypersonics.

Accelerate the procurement and fielding of innovative technologies program realignment of funds

The budget request included \$100.0 million in Research, Development, Test, and Evaluation, Defense-wide (RDDW) for PE 68775D8Z Accelerate the Procurement and Fielding of Innovative Technologies (APFIT).

The committee has been informed that funding for this program should be in a different PE as it is not a software program.

Therefore, the committee recommends a decrease of \$100.0 million in RDDW PE 68775D8Z and an increase of \$100.0 million in RDDW PE 64795D8Z Accelerate Procurement and Fielding of Innovative Technologies (APFIT).

Systems Engineering reduction

The budget request included \$39.0 million in Research, Development, Test, and Evaluation, Defense-wide (RDDW) for PE 65142D8Z Systems Engineering.

The committee recommends a decrease of \$10.0 million in RDDW PE 65142D8Z for insufficient program justification.

Key technology area assessments and engineering efforts

The budget request included \$56.1 million in Research, Development, Test, and Evaluation, Defense-wide (RDDW) for PE 65798D8Z Defense Technology Analysis.

The committee recommends an increase of \$10.0 million in RDDW PE 65798D8Z for key technology area assessments and engineering efforts.

National Security Agency Center of Academic Excellence cybersecurity workforce pilot program

The budget request included \$43.1 million for Research, Development, Test, and Evaluation, Defense-wide (RDDW) for PE33140D8Z Information Systems Security Program.

The committee supports the National Security Agency (NSA) National Cryptologic School pilot program to enable workforce transformation certificate-based courses on cybersecurity and artificial intelligence that are offered by Center of Academic Excellence (CAE) universities. The committee understands that this pilot program will develop courses and curricula with technology partners and also provide funding for select NSA CAE universities to offer these courses and receive tuition reimbursement for participation in the courses.

Therefore, the committee recommends an increase of \$20.0 million in RDDW for PE 33140D8Z for the NSA CAE cybersecurity workforce pilot program.

MQ-9 Unmanned Aerial Vehicle realignment of funds

The budget request included \$14.0 million in Research, Development, Test, and Evaluation, Defense-wide (RDDW) for PE 1105219BB MQ-9 Unmanned Aerial Vehicle. The budget request also

included \$67.1 million in Operation and Maintenance, Defense-wide (OMDW) SAG 1PL7 for MQ-9 Unmanned Aerial Vehicle.

The committee notes that U.S. Special Operations Command identified emergent requirements related to the development of MQ-9 MALET capabilities and requested a realignment of \$5.9 million from operation and maintenance to research, development, test, and evaluation.

Therefore, the committee recommends an increase of \$5.9 million in RDDW PE 1105219BB MQ-9 Unmanned Aerial Vehicle and a corresponding decrease of \$5.9 million in OMDW SAG 1PL7 for MQ-9 Unmanned Aerial Vehicle.

Maritime scalable effects

The budget request included \$129.1 million in Research, Development, Test, and Evaluation, Defense-wide (RDDW) for PE1160431BB Warrior Systems.

The committee supports prioritization of resources to address capability gaps, particularly those that ensure U.S. Special Operations Forces maintain superiority relative to long-term strategic competitors, and notes that the Commander, U.S. Special Operations Command (SOCOM), has identified the acceleration of maritime scalable effects as an unfunded requirement.

Therefore, the committee recommends an increase of \$2.4 million in RDDW PE1160431BB for acceleration of SOCOM maritime scalable effects.

Dry Combat Submersible Next

The budget request included \$82.6 million in Research, Development, Test, and Evaluation, Defense-wide (RDDW) for PE1160483BB Maritime Systems.

The committee supports prioritization of resources to address capability gaps, particularly those that ensure U.S. Special Operations Forces maintain superiority relative to long-term strategic competitors, and notes that the Commander, U.S. Special Operations Command (SOCOM), has identified the acceleration of the Dry Combat Submersible (DCS) Next program as an unfunded requirement.

Therefore, the committee recommends an increase of \$30.0 million in RDDW PE1160483BB Maritime Systems for acceleration of the DCS Next program.

Increase for inflation effects

The committee recommends an increase of \$13.0 billion for inflation effects, of which \$859.4 million is for Research, Development, Test, and Evaluation, Defense-wide and Operational Test and Evaluation.

Acquisition and employment of artificial intelligence and autonomy technologies for red team cybersecurity testing for the Office of Operational Test and Evaluation

The budget request included \$119.5 million in Research, Development, Test, and Evaluation, Defense-wide (RDDW) for PE 651180TE Operational Test and Evaluation.

The committee notes that the Office of the Director of Operational Test and Evaluation is among the largest users of, and advocates for, cyber Red Teams in the Department of Defense (DOD) and sees the need to apply automation technology to Red Team penetration testing to enable the most efficient use of scarce human expertise and time. Automated Red Team technology is being developed and matured by the commercial cybersecurity industry and components within DOD are beginning to apply it.

The committee recommends an increase of \$10.0 million in RDDW for PE 651180TE for Director of Operational Test and Evaluation acquisition and employment of artificial intelligence and autonomy technologies for red teaming.

ITEMS OF SPECIAL INTEREST

Accessing state-of-the-art microelectronics

The committee is aware that advanced microelectronics are vital to national and economic security. The committee believes that dependence on foundries concentrated in vulnerable regions of Asia is risky and increases the potential for disrupted or unsecure supply chains. The committee has worked for many years to restore manufacturing in the United States and to revitalize the domestic microelectronics innovation base and process. The committee commends the Department of Defense for: (1) Moving forward responsibly to budget for the Rapid Assured Microelectronics Prototype (RAMP), RAMP-Commercial, State-of-the-Art Heterogeneous Integrated Packaging (SHIP), and Electronics Resurgence Initiative programs, including the development of quantifiable assurance processes to support these programs; (2) Embracing the responsibility to execute the microelectronics commons initiative to reinvigorate the microelectronics innovation base; and (3) Committing to acquiring the intellectual property for process designs that is essential for the success of any domestic pure-play foundry.

The committee believes that the most important component of a national microelectronics strategy is to build manufacturing capacity in the United States. The committee is optimistic that, with the right financial incentives, leading global microelectronics foundry companies will build manufacturing facilities in the United States that will be utilized on a large scale by the leading commercial fabless semiconductor companies.

However, the committee is concerned about proposals to use anticipated Department of Commerce grant funding, which is intended primarily for enhancing domestic manufacturing capabilities, for security enhancements after decades of experience with similar "Trusted Foundry" initiatives that proved to be unsustainable, both from a commercial viability and funding perspective. The concern is whether: (1) This additional security is required over and above what can be achieved via the quantifiable assurance initiative and the security measures already planned for the domestic SHIP assembly and packaging facility; (2) This security enhancement can be accomplished without threatening the commercial and economic success of a pure-play foundry; and (3) The considerable funding required is affordable and sustainable within the limits of public financing available under the anticipated Department of Commerce semiconductor grant program and in view of competing demands.

In addition, the committee is concerned that the Department of Defense (DOD) lacks a coherent strategy to address sustainment and modernization needs of legacy systems that face obsolescing electronics. Buying old chips on the open market courts counterfeit risks and lifetime buys of legacy semiconductors for systems that will need to remain in service far into the future significantly limits the ability to upgrade capabilities with modern electronics and software. The committee is also concerned that the DOD's model of designing custom chips and contracting for very small production quantities runs completely counter to the economics and technical foundations of the microelectronics industry, which is based on high-volume production of constantly improving commodity chips.

The committee therefore directs the Under Secretary of Defense for Research and Engineering (USD(R&E)) to commission an independent assessment from experts in the field of commercial microelectronics and DOD requirements for microelectronics of the feasibility and the cost-benefit calculus of: (1) Upgrading the microelectronics in legacy systems with long projected service lives with modern semiconductors and new software via modeling, emulation, and testing rather than attempting lifetime buys of obsolete chips; and (2) Minimizing or even eliminating requirements for low volume custom-designed semiconductors and

instead buying commodity commercial products and tailoring them to specific applications through heterogeneous packaging and software programming. The committee directs the USD(R&E) to provide a briefing to the congressional defense committees on the results of this assessment not later than March 31, 2023.

Additive manufacturing implementation strategy

The committee recognizes the importance of additive manufacturing advances to help reduce sustainment costs and increase performance of new and existing systems. The committee believes that the Department of Defense (DOD) is making good progress in adapting to and adopting additive manufacturing technologies, and applauds the Department for publishing an Additive Manufacturing Strategy in January 2021, through the DOD's Joint Defense Manufacturing Council. The committee notes that this strategy is helping to promote additive manufacturing expansion, standardization, and training through new policies and collaboration efforts. However, though this strategy exists, it lacks many necessary implementation details to help translate that policy into more concrete action.

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 and the service acquisition executives, to provide an implementation strategy for additive manufacturing to the Committees on Armed Services of the Senate and the House of Representatives, not later than November 1, 2023. This implementation strategy shall include:

- (1) A roadmap that addresses the workforce skills needed to support the technologies covered by the strategy;
- (2) Proposals for demonstration projects to assess relevant concepts, models, technologies, and engineering barriers;
- (3) Proposals for the application of additive manufacturing for warfighting capabilities;
- (4) Proposals for the application of additive manufacturing to achieve agile, resilient, and integrated logistics and sustainment for distributed operations;
- (5) Proposals for the application of additive manufacturing to establish quality assurance practices for system and technological maintenance;
- (6) Proposals for launching pilot programs in which the Secretary may work with industry and academic institutions to develop and implement additive manufacturing standards and practices;

(7) Identification of relevant infrastructure, facilities, or tooling within Department of Defense laboratories or test and evaluation facilities that might contribute to such proposals, and other collaborative programs with industry or academia;

(8) Identification and designation of centers of excellence for additive manufacturing technology within Defense organizations and operational units (such as the Maine Air National Guard 101st Air Refueling Wing) to support increased collaboration and interaction with research organizations, industry, and academia to link operationally relevant user feedback to other research efforts; and

(9) Identification of potential additive manufacturing technology innovation ecosystems that could support defense mission needs.

Assessment of directed energy technologies

The committee supports the current efforts of the military services to develop an array of high-powered laser and microwave directed energy weapons for land, sea, and air applications. By achieving higher power levels, near continuous shot availability, and low downtime for recharge or heat dissipation, these systems aim to effectively defeat hardened and swarming threats. The committee is aware that in February 2022, White Sands Missile Range hosted the first ever demonstration of a "deep magazine" directed energy weapon, known as the Layered Laser Defense, proving viability of a system capable of near continuous shot availability with limited downtime. The committee believes this will enable more effective defense against swarming and hardened threats raised by geographic combatant commanders, including unmanned systems, rockets, artillery, mortars, and hypersonic missiles.

The committee encourages the military services to incorporate components from these newly demonstrated technologies into ongoing directed energy research and development to facilitate deeper magazine and higher power levels with reduced size and weight. The committee is concerned that demonstrated high duty cycle technologies with significant size, weight, power, and cost effectiveness are underutilized in the scope of current developments, with services settling for more limited shot time, power level, and mobility. As such, not later than March 1, 2023, the committee directs the Secretary of Defense to provide the congressional defense committees a briefing on how recently demonstrated capabilities at the 100kW level and above compare with the technologies currently being developed and evaluated by the military services and how

incorporation into current directed energy programs will impact critical factors, including cost, schedule, size, weight, power, operationally relevant testing, and mission flexibility. The briefing shall also describe existing technological gaps that may prevent integration of more capable subsystems.

Bomber-focused Agile Combat Employment

The committee understands that Agile Combat Employment (ACE) is an Air Force-driven operational concept meant to leverage networks of well-established and austere air bases, multi-capable airmen, pre-positioned equipment, and airlift capabilities to rapidly deploy, disperse, and maneuver combat capability throughout a theater. Paired with aircraft fueling, arming, and limited maintenance activities, ACE expands the number of bases from which the U.S. military can generate sorties. So far, this has mostly focused on tactical fighters and mobility forces, not on expeditionary bomber capability. Therefore, the committee believes the Air Force also needs to apply bomber-focused ACE to U.S. Indo-Pacific Command, U.S. European Command, and to operations within the United States.

Many options for operating and launching strategic forces have vanished due to base closures, neglect, and crumbling infrastructure. Those that remain viable will likely follow suit unless they are maintained and exercised. Bomber-focused ACE exercises also provide more opportunities to train multi-capable airmen and exercise planners without the added expense of and foreign dependence for an overseas exercise. There are locations within the continental United States (CONUS) and Alaska that have the necessary runways and infrastructure without existing bomber units, thereby allowing austere training while mitigating risk. Additional exercises in North America would ensure the ACE concept (to include bombers) can be executed proficiently in practice.

Therefore, the committee directs the Secretary of the Air Force to provide to the congressional defense committees, not later than January 31, 2023, a report describing the feasibility of bomber-focused ACE exercises in the Pacific, Europe, and within CONUS and Alaska. The report shall include any currently scheduled ACE exercises including bombers within the CONUS or elsewhere. The report shall also include a list of requirements for a base or location to be used in such an exercise, to include a breakdown of requirements for various types of exercises such as nuclear bomber exercises or conventional bomber exercises. Finally, the report shall include a list of those bases and locations currently meeting such requirements and those that could do so with minor modification.

Circuit density study

The committee believes that the Nation must work to retain technological advantage relative to adversaries and potential adversaries, particularly in critical fields such as semiconductor development. Within that field, the committee understands that scaling advances—decreasing transistor node size while increasing the density—of superconducting circuits can enable the practical application of this technology to data centers and cloud computing, yielding dramatic increases in energy efficiency.

Therefore, the committee directs the Secretary of Defense to seek to enter into a contract with a federally funded research and development center to produce and provide to the congressional defense committees, not later than December 1, 2023, a study and technological roadmap that explores the limits of increasing superconducting circuit density. The study shall include: (1) An examination of the limitations of scaling to feature sizes of 10 nanometers or smaller; (2) Limitations that would impact performance as a result of further compacting circuit components; and (3) New circuit operation approaches that may improve speed, performance, or compactness of these circuits.

Commercial off-the-shelf acquisition and test strategies

The committee notes that Federal acquisition rules already require agencies to prioritize and procure commercial items, to the maximum extent practicable, over custom development. The commercial item preference for both products and services allows the Department of Defense (DOD) to rely on the innovation and economies of scale of the commercial marketplace to help reduce cost while increasing productivity and responsiveness to constantly evolving technology. The committee recognizes that commercial products and services could help to streamline the Department's acquisition system with respect to accelerated schedules, more affordable solutions, and provide for more innovative commercially mature technologies.

The committee believes the Department could better leverage significant commercial investment in critical technology areas that in turn should compress program development timelines and costs. The committee encourages the Department to consider commercial-off-the-shelf (COTS) or modified COTS technology as part of the requirements generation process, formal request for proposal process, as well as in development of test and evaluation master plans. The committee also believes such an approach could be valuably applied to

sustainment planning to help upgrade existing systems over time to integrate newer, improved technology in ways that extend the life of and reduce the lifecycle costs for legacy programs.

The committee expects the requirements, acquisition, and test communities to begin addressing how the Department identifies, evaluates, and integrates primarily COTS-based systems into programs, including how the DOD approaches coordination on the development of realistic test and evaluation master plans for such efforts.

Comptroller General assessment of university scholarships to support future defense quantum information science workforce needs

The committee recognizes the potential benefits that quantum information sciences will provide for future national security missions. While it is nearly impossible to forecast the timeline when utility-scale quantum information systems will be available for militarily useful purposes, it is important to ensure that the workforce exists at the time of need. In order to be better prepared when that uncertain future arrives, the committee believes that the Department of Defense (DOD) should be planning for and developing the future workforce to ensure that the necessary human capital exists when the technology is ready for deployment. The DOD has many tools at its disposal to support those goals, including many science, technology, engineering, and math (STEM) scholarship and fellowship programs that can be used to grow the field, as well as scholarship-for-service programs that can be used to attract qualified personnel into Defense laboratory, test, and evaluation (T&E) and technical management positions.

To better assess the Department of Defense's planning and workforce development capabilities in this space, the committee directs the Comptroller General of the United States to review DOD university scholarship and fellowship programs supporting quantum information science needs in the Department and provide a report to the Committees on Armed Services of the Senate and the House of Representatives. This review shall: (1) Examine the Department's planning for workforce needs for quantum information science over the next 10 years, including an assessment of the number of billets in the Defense laboratories and T&E centers and the ability of those organizations to grow or adapt their current workforce to fill these needs; (2) Assess current STEM programs across the Department to see how they are utilized to produce graduates in quantum information sciences; (3) Examine linkages between the workforce planning and STEM scholarship and fellowship programs to determine the adequacy

and effectiveness of the pipeline between the two; and (4) Identify opportunities for improvement in any of these processes.

The Comptroller General shall provide a briefing to the Committees on Armed Services of the Senate and the House of Representatives, not later than February 1, 2023, and a report at a mutually agreed upon date.

Comptroller General review of operational testing for Navy ships

The committee notes that when effectively used, operational testing provides timely information to determine whether or not Navy ships and other weapon systems will achieve their desired results. The data generated through this testing can be used to improve the remaining ships in a class and their critical systems before they reach the fleet, as well as the designs of future ship classes.

The committee further notes that the Government Accountability Office has found that operational testing revealed significant concerns with the performance of a number of new ship classes. For example, the Director of Operational Test and Evaluation found during operational testing that one variant of the Littoral Combat Ship could not achieve the range requirements for the ship—a critical parameter of ship performance. Further, operational testing exposed common issues across ship classes, such as concerns with cybersecurity, lethality, and survivability.

To support operational testing, the committee understands the Navy uses its current self-defense test ship, the ex-USS *Paul F. Foster*, to test ship systems that cannot be sufficiently tested on crewed Navy ships or through simulations. However, this test ship will no longer be in a ready state after 2025. With a replacement solution still not determined, the committee is concerned that the Navy risks impairing its ability to perform operationally realistic testing for a number of critical programs.

The committee also understands the Navy will be conducting operational testing over the next 5 years for the *Zumwalt*-class destroyer and the *Ford*-class aircraft carrier—two of the Navy's most expensive and challenging acquisitions over the past decade—as well as the newest variant of *Arleigh Burke*-class destroyer with advanced air and missile defense radar technologies. With these new ships and future lead ships, like the new *Constellation*-class frigate, it is critical to ensure that the Navy takes action to address issues identified through operational testing that could affect the ability of the

Nation's sailors to effectively, safely, and reliably conduct assigned missions.

Therefore, the committee directs the Comptroller General of the United States to assess the adequacy of current and planned operational testing for Navy shipbuilding programs, including: (1) The policies and procedures used to develop test plans and operationally test Navy vessels; (2) The extent to which Navy vessels meet expectations during operational testing; (3) The extent to which operational test results are used by the Navy to inform changes to its shipbuilding programs; (4) Changes, if any, in the test and evaluation approach based on changes in the threat environment; (5) The Navy's plans for a self-defense test ship replacement; and (6) The implications for Navy acquisition programs.

The Comptroller General shall provide a briefing to the Committees on Armed Services of the Senate and the House of Representatives on preliminary findings, not later than June 30, 2023, and submit a report to the congressional defense committees on an agreed-upon date.

Coordination of investments for model-based systems engineering

The committee is aware of the Department of Defense (DOD)'s interest in model-based systems engineering (MBSE) approaches and tools to help improve the rigor and application of digital tools for systems engineering practices through reusable and extensible systems engineering artifacts. The committee recognizes that MBSE approaches support both improved research and development, but also make the transition into acquisition systems of record and ultimately sustainment more seamless. MBSE digital artifacts can also support related efforts by providing inputs that can be used in tradeoff analysis, modeling and simulation support, and modular open systems approaches.

However, the committee is also aware that such efforts appear to be advocated more from the bottom-up and not driven in a concerted or coordinated fashion from the top-down. The committee is concerned that approach results in unwarranted duplication, dilution of effort, and inconsistent adoption across the Department. In order to reap the full benefits from MBSE, the committee believes that there needs to be greater transparency and coordination of MBSE investments across the Department.

Therefore, the committee directs the Secretary of Defense to provide a report to the congressional defense committees, not later than May 1, 2023, on the investments in MBSE efforts across the DOD, and the plan for establishing a coordinating

mechanism to guide future investments and support adoption into programs for MBSE.

Defense Advanced Research Projects Agency collaboration

The committee is aware that rotorcraft aircrews face numerous demands when flying near buildings, terrain and people, and the threat of adversary radar systems. The committee understands that the current warning systems are limiting and can induce unanticipated cognitive burdens on pilots, increasing the number of military personnel's complex tasks. The committee recognizes the efforts of the Defense Advanced Research Projects Agency's (DARPA) collaboration with commercial industries and academia to develop artificial intelligence systems and autonomy technology integrated into rotorcraft, such as the UH-60 Black Hawk, to help helicopter pilots perform both expected and unexpected complex tasks. The committee believes that the Aircrew Labor In-Cockpit Automation System program is one such example of collaboration resulting in such technology posing a demonstrable benefit to an entire mission from takeoff to landing. The committee supports the ongoing efforts of DARPA in collaboration with commercial industry and academia in providing innovative technologies and critical capabilities and encourages continued utilization of such collaboration.

Defense Innovation Unit Blue List

The committee commends the Department of Defense (DOD) for its efforts to ensure small UAS (sUAS) systems procured by the Department comply with section 848 of the National Defense Authorization Act for Fiscal Year 2020 (Public Law 116-92) to ensure these drones or critical components of these drones do not come from China.

The committee understands the Defense Innovation Unit (DIU) evaluates commercial sUAS systems and clears them for use by the rest of the DOD in what is known as the "Blue List." While not intended by the Department, the committee further understands many agencies inside and outside of the DOD have deemed the DIU "Blue List" as the official authorization for contracting agencies to purchase sUAS systems.

The committee notes that sUAS systems procured by other DOD entities that have achieved authority to operate in compliance with section 848 do not have an expedited path to be included on the publicized DIU "Blue List." This situation has led to confusion within industry and among Government agencies about whether a specific model sUAS has been cleared for Government use.

Therefore, the committee directs the Secretary of Defense to provide a briefing, not later than April 1, 2023, to the Committees on Armed Services of the Senate and the House of Representatives on a streamlined process for including all sUAS types that have achieved authority to operate on the DIU "Blue List." This process should enable all DOD sUAS types that have authority to operate to be included on the DIU "Blue List" so that all agencies inside and outside the DOD have visibility on approved sUAS systems. In addition, this process should include periodic updates to add new types or remove older systems.

Development of an Advanced Digital Switching Research, Development, Test and Evaluation Initiative

The committee notes that advanced digital switching technology is a critical enabler for reducing the size, weight, power, and cost for a wide range of defense systems and electronics. The replacement of physical switches allows for systems developers to put more capability into the same size factor (or smaller), while achieving higher performance and more energy efficiency. The committee believes that the pursuit of more advanced designs will open up additional design choices for future system developers, but requires more collaboration and interaction between various development communities. The committee encourages the Under Secretaries of Defense for Research and Engineering and Acquisition and Sustainment to work proactively to find opportunities to seek out domestic vendors whose digital switch and relay technology products can dramatically decrease size, weight, power, and cost and actively take steps to transition their switches into the design of both future and legacy systems. The committee also believes that semiconductor produced switches offer important new types of capability and should also be considered for their technical properties for support under any Department of Defense initiatives.

Development of next-generation naval mines

The committee recognizes the important role that naval mines have played in past conflicts. For example, analysis conducted after World War II indicated the cost effectiveness of mine warfare against Japan in comparison to submarine warfare, as well as other lessons that are applicable for consideration in today's security environment. Emerging operational concepts

from the Navy and Marine Corps have brought a new spotlight on a capability that has largely atrophied in the U.S. military.

The committee notes that some progress is being made to reinvigorate naval mining capabilities focused on new systems and techniques that leverage advances from other technical disciplines, like autonomous operations, sensing, power storage, and undersea recharging. The committee is optimistic that the aggregation of these technological advances, coupled with the renewed interest in concept experimentation that could leverage these capabilities, provides a good opportunity to prototype and experiment with next generation naval mines.

Therefore, the committee directs the Chief of Naval Research to provide a briefing on research and development to support next-generation naval mines to the committee, not later than May 1, 2023. This briefing shall include the current state of research and development, opportunities for experimentation and rapid prototyping, assessment of the desired capabilities based on operational demand, and identification of any research gaps for enabling technologies or supporting systems that might be needed to employ such capability.

Domestic millimeter wave technology for next-gen 5G infrastructure

The committee remains supportive of efforts to strengthen the domestic industrial base for modern microelectronics manufacturing capabilities. The committee also recognizes the importance of this infrastructure in maintaining a robust, secure, and needed capability for next-generation information networks.

As the Department of Defense increases investments in next-generation information technology research and development, the Department should consider investing in domestically developed technology with dual-use capability for passive and active millimeter wave (mmWave) components.

Therefore, the committee directs the Secretary of Defense to submit a report to the congressional defense committees, not later than April 1, 2023, on:

(1) How the Department plans to leverage domestic mmWave components that support applications at frequencies above 30 gigahertz;

(2) What ongoing programs in the Department are focused on such efforts; and

(3) What mechanisms and resources the Department is currently using to support commercial advancements in 5G component capabilities to enhance next-generation infrastructure development and deployment.

Gaming, exercising, modeling, and simulation to support great power competition

The committee notes that the renewed emphasis on great power competition in the Department of Defense (DOD) calls for the ability to understand and integrate all of the elements of national power, including military, economic, and informational instruments. The committee is aware that the Defense Science Board (DSB), in a report from January 2021, titled "Gaming, Exercising, Modeling and Simulation (GEMS)," examined aspects of this issue and made a number of recommendations to direct the Department's research and engineering enterprise to develop a more rigorous, quantitative, and repeatable approach to analysis of complex problems of great power competition. As noted by the DSB, "GEMS tools and capabilities provide cost effective and innovative ways to test new ideas and concepts, design and prototype new systems, model military campaigns, conduct geopolitical analysis, and provide training to improve warfighter readiness and performance. The task force observed that such capabilities are increasingly important in today's highly competitive and dynamic strategic environment associated with the return to great power competition and that technological advances have made GEMS capabilities even more powerful and useful than they were in the past. While the DOD has pockets of GEMS excellence and innovation, the task force observed that it lacks the necessary integration, resources, and talent to reap the full benefit now available from GEMS. Particularly lacking are mechanisms to effectively integrate insights derived from GEMS into senior leader decision-making about defense requirements and acquisition programs."

Therefore, the committee directs the Secretary of Defense to provide a briefing to the congressional defense committees on the current state of development, evaluation, and validation for GEMS capabilities as applied to great power competition. The briefing shall include several use cases, such as economic sanctions, influence campaigns, or gray zone conflict experimentation, in order to illustrate the understanding of the use, effectiveness, and limitations of such tools, along with a description of possible activities that would improve the scientific basis, adoption, operational use, or experimentation of GEMS tools in the future. The committee believes that this briefing should evaluate such use cases in a similar way that the Department develops an understanding of the capacities of kinetic and cyber weapons prior to their deployment and use, especially in the use of modeling capabilities, testing, and quantitative analyses to support development and deployment. The briefing shall be provided not later than July 1, 2023, in

public release, unclassified, and classified formats as appropriate.

Graphitic composites and foam for special operations forces communications and intelligence support systems

The committee understands U.S. Special Operations Command (SOCOM) is working to develop lower cost, wider application graphitic composite and graphitic foam components in support of special operations forces communications and intelligence support systems. The committee understands that graphitic composite and foam components may reduce weight, increase strength, enhance mission capability, and extend service life for these programs. Additionally, graphitic foam may reduce component heat signatures, improve heat dissipation from electronic devices and sensors, and cool electronic compartments in demanding environments. The committee encourages SOCOM to continue its efforts to test, develop, and field low-cost carbon fiber and graphitic carbon foam in support of its programs, as appropriate.

Head supported mass

The committee is aware of the physiological impacts to the neck and spine of servicemembers that result from carrying excess amounts of weight or mass on their head for extended periods of time. This problem is especially pervasive in the special operations and aviation communities, often requires surgery to correct, and can result in permanent disability. The military departments have made progress in fielding new equipment, such as ballistic helmets, to help mitigate the impacts of excess amounts of head supported mass. However, new systems are continually being fielded that attach to the various types of military helmets currently in use. The committee encourages the Secretary of Defense and the military departments to continue researching and developing mitigation techniques to prevent injuries from head support mass and enhance readiness.

Accordingly, the committee directs the Secretary of Defense, in consultation with the Under Secretary of Defense for Research and Engineering, to submit a briefing to the congressional defense committees, not later than March 1, 2023, on the plan to mitigate injuries from head supported mass and enhance readiness.

Hypersonic defensive and offensive capabilities

The committee notes the Department of Defense's overdue investment in fielding hypersonic defensive and offensive capabilities. The committee encourages additional funding for defensive and offensive capability to enable the Department to not just pace, but leap ahead of peer competitors. The committee encourages the Department to break down barriers between services, leverage the role of the Joint Hypersonic Transition Office, and rapidly break down barriers in acquisition policies to quickly field defensive and offensive systems. The committee encourages the Department to accept a more risk-tolerant approach and utilize best practices from the commercial sector to manage risks during scale production. Examples include employing a digital enterprise linking the design, manufacturing processes, and performance requirements to rapidly assess impacts of changes. As more ground and flight testing is performed, modeling and simulation can be more confidently employed to advance designs while mitigating risk. The committee encourages the Department to adopt a mindset of a partnership approach with industry to take advantage of innovation. The Department would be wise to consider an integrated product team that considers all stakeholders—material suppliers, component fabricator, system integrator, and customers (services and combatant commands) in leaping ahead of peer competitors. The committee believes that by adopting such a risk-tolerant approach, leveraging commercial best practices, investing in highly adaptable and flexible capabilities, and harnessing industry expertise, the Nation's goal of fielding strategic hypersonic weapons affordably and within accelerated program timelines is achievable.

However, one of the greatest concerns of the committee is the ability to test hypersonic systems, which requires extensive range space and sophisticated testing capabilities. Therefore, the committee directs the Secretary of Defense to provide a briefing, not later than March 31, 2023, to the congressional defense committees on the capabilities and shortfalls of existing and planned Department of Defense, academia, and industry testing facilities to ensure the on-time development and fielding of these critical hypersonic systems.

Low-cost attritable aircraft

The committee is concerned the Air Force is not moving fast enough with development and testing of low-cost attritable aircraft to give the Department the scale and speed necessary to compete with potential future adversaries. The committee has been supportive of Air Force efforts to procure Valkyrie aircraft and has encouraged the Air Force to expedite the

transition of Valkyrie to the Advanced Aircraft Capability Development activity. However, the committee understands the Air Force is considering further study of low-cost attributable aircraft designs rather than accelerating development of a platform and transitioning it to a program of record, as the Vanguard programs were designed to do. Given the advances in similar systems by near-peer adversaries, it is critical the Air Force accelerate its fielding of an operationally capable low-cost attributable aircraft, rather than devote more time and resources to study the situation further.

Therefore, the committee directs the Secretary of the Air Force to submit a report to the congressional defense committees, not later than February 1, 2023, that details how the Air Force intends to transition low-cost attributable aircraft technologies into operational systems.

Microelectronics standards for quantifiable assurance

The committee is aware that the Department of Defense's (DOD) present microelectronics security strategy rests on a decision to partner with leading commercial semiconductor companies to understand, quantify, further develop, and codify in standards the existing processes used to protect the integrity and confidentiality of intellectual property (IP) in commercial integrated circuits. This approach, referred to as quantifiable assurance, rests on data and processes that are inherent in the commercial processes at microelectronics design and manufacturing facilities through comprehensive instrumentation and data analysis of each step in design and production.

Commercial fabless semiconductor companies, in partnership with their foundry manufacturers, use these quantifiable assurance processes today for quality control and IP protection. These commercial companies manufacture millions of chips a day with very high yields in a very competitive industry, and thus have demonstrated these processes are economically viable. The Department is exploring these processes in partnership with a commercial foundry to manufacture a chip for its next-generation Global Positioning System (GPS) receivers (known as the M-Code GPS User Equipment (MGUE)). Between this MGUE program of record precedent and the massive use of these quantifiable assurance methods in commercial industry's quality control processes, the committee is confident that the DOD can develop an approach with industry partners that meets its security needs without incurring unsustainable costs or threatening the commercial viability of its industry partners.

The committee believes that this approach for quantifiable assurance is more viable in the long run, and more closely aligns with commercial practices, than traditional approaches for dedicated Trusted Foundries. The committee understands that the benefit of this methodology is that it enables hardware designs to be processed through commercial manufacturing facilities, at high volume and in compliance with the International Traffic in Arms Regulations without requiring classified facilities, equipment, processes, or personnel with security clearances. However, the Department has asserted to the DOD Inspector General in a recent letter that it is not possible to create a plan for transition to a quantifiable assurance model until the methodology has been "proven to effectively provide required levels of protection equal to or greater than what is currently provided by the [Trusted Foundry] model."

Given the differences in the approaches and the fundamental challenge in proving any security model, the committee is concerned that the DOD is creating an insurmountable hurdle that is discouraging an adequate risk trade-off assessment for the quantifiable assurance approach. Therefore, in order to ensure that a diversity of views are available to inform decisions in this critical and complex matter, the committee directs the Chief Scientist of the Air Force to conduct an independent review and lead supporting efforts for the quantifiable assurance effort underway in the Office of the Under Secretary of Defense for Research and Engineering (USD R&E). The committee directs that these efforts and the review of the Department's approach to quantifiable assurance include: (1) Examples of existing quantifiable assurance standards from industry and international partners and their effectiveness; (2) Mapping of data sources that would provide this information to process workflows in order to identify any gaps in data, or data sources; (3) Leveraging of the Air Force's MGUE experience; and (4) Formalization of a threat model and threat vectors against which quantifiable assurance and other security models shall be assessed. In conducting the review and development, the committee expects the Chief Scientist of the Air Force to include participation and input from entities with expertise in commercial implementations of quantifiable assurance and in threat assessment. The committee directs the Chief Scientist to provide a briefing to the congressional defense committees on this effort not later than June 1, 2023.

The committee notes that the USD R&E has initiated an independent assessment of the feasibility and viability of quantifiable assurance. The committee directs that this effort

include participants from the fabless semiconductor industry and the National Security Agency.

Modeling and simulation of defense industrial base supply chains

The committee is aware of work within the Defense Advanced Research Projects Agency (DARPA) to develop modeling and simulation (M&S) tools to better understand the complex web of interactions and dependencies within defense industrial base supply chains. Historically, the Department of Defense has had little insight into the lower tiers of supplies, and thus has lacked the ability to make informed decisions to prevent single points of failure, identify opportunities to thoughtfully expand supply by bringing new sub-tier entrants into the industrial base, or predict when the disappearance of a sub-tier supplier will have a negative impact on the overall supply chain.

Current events have brought these problems to the forefront for acquisition decision makers. For example, the supply chain issues caused by COVID-19 disruptions have highlighted both the problems of the impact of sub-tier supplier shortages on overall production capacity, as well as the lack of information the supplier base has on rapidly ramping up production in the case of an emergency contingency. More recently, the move to supply Stinger missiles to Ukraine in their defense against Russian aggression has put a spotlight on the need to have better monitoring of the supply chain to allow for rapid scaling of production.

The committee supports DARPA's supply chain modeling work, and believes that such efforts can be useful in providing the data collection and industrial base health monitoring needed to improve industrial policy decision making. The committee encourages closer collaboration with the office of the Under Secretary of Defense for Acquisition and Sustainment, as well as the Director for the Defense Logistics Agency to improve coordination, gain better operational insight, and provide potential transition pathways as this technology is validated.

Therefore, the committee directs the Secretary of Defense to provide the committee a briefing on DARPA's capabilities for modeling the defense industrial base, including specific supply chains, not later than January 20, 2023. This briefing should include: (1) The current status of DARPA's program, including plans for the upcoming year; (2) Assessment of similar capabilities being developed, tested, or used operationally by other components in the Department that could be incorporated into the DARPA capability; (3) Identification and assessment of commercial capabilities currently available in the marketplace that might supplement or be incorporated into the DARPA

capability; (4) Identification of data or capability gaps; (5) Identification of use, cases, or experimentation venues that could be used to provide operational utility assessment or feedback; and (6) Coordination processes to ensure transition partners have visibility into the program.

Navy submarine nickel zinc battery program

The committee understands the Navy has been developing and evaluating nickel zinc (NiZn) battery technology for application in submarine main storage batteries.

The committee notes that NiZn batteries being tested are optimized for high capacity and long life while also delivering high power using an environmentally friendly and safe chemistry. The Navy also projects NiZn batteries to have over twice the capacity of lead-acid batteries at three quarters of the weight and within the same battery footprint. The committee also notes that NiZn chemistry represents a technology that can be developed and manufactured domestically.

Accordingly, the committee strongly supports the continued development and engineering efforts associated with advancing the manufacturability of NiZn technology and implementation of NiZn technology into Navy submarines, when appropriate, to improve mission performance.

NC-135W retirement

The committee understands that the Air Force intends to divest the NC-135W testbed aircraft at or before its next scheduled depot. While the committee supports the Air Force's plan to replace the legacy aircraft with an aircraft in an operationally representative configuration, the committee remains concerned about a potential capability gap during the interim period after the retirement of the NC-135W and before the replacement NC-135 reaches initial operational capability.

Accordingly, the committee directs the Secretary of the Air Force to provide a briefing to the defense committees, not later than December 1, 2022, on the Air Force's plan to evaluate novel technologies for the RC-135 fleet until the replacement aircraft for the NC-135W reaches initial operational capability.

Optimizing research within Department of Defense

The committee recognizes that the identification and placement of undergraduate and post-graduate scientific research fellows and interns within technical organizations in the military branches and Defense-wide laboratories is critical to

the Department of Defense. Scientifically and technically trained personnel are important to the research, development, and testing enterprise and to better inform policy development. Additionally, the committee is increasingly concerned about the capacity and capabilities of the current and projected science, technology, engineering, and mathematics (STEM) workforce pipeline. The committee is concerned that administrative, logistical, budgetary, and planning barriers further compound the Department's long-term ability to foster and onboard these STEM fellows and interns in productive ways.

Therefore, the committee directs the Under Secretary of Defense for Research and Engineering to provide a briefing to the Committees on Armed Services of the Senate and the House of Representatives, not later than January 1, 2023, on strategies, opportunities, and approaches to enhance the STEM workforce pipeline for the Department of Defense, including identification of structural, administrative, or regulatory impediments that inhibit the Department's ability to provide more positions for STEM fellows and interns, as well as proposed recommendations for mitigating those impediments.

Plan for scaling and integrating National Security Innovation Capital

The committee applauds the Department of Defense for providing for investment for the National Security Innovation Capital (NSIC) program in the future years defense program. The committee views the mission of the NSIC to help invest in key technology sectors and make strategic bets to prevent emerging technologies and companies from receiving investment from potential adversarial governments as a necessary tool in the Government's toolbox of innovation. However, the committee is also aware that in order to provide that embedded funding stream, the Defense Innovation Unit (DIU) was required to take that dedicated funding out of its existing budget. The committee is concerned that this approach is detrimental to the other key function of DIU to invest more broadly in commercial hardware of benefit to the Department. The committee is concerned that such a move is short-sighted.

Therefore, the committee directs the Secretary of Defense to provide the committee a briefing on a plan by January 20, 2023 for scaling the NSIC investment to a sustainable level within the DIU organization without negatively impacting the other funding activities in that organization. In addition, the briefing shall also address how to better integrate NSIC activities with other related and supporting capabilities. For example, the ability to offer loan guarantees (rather than

direct investment) to support small and non-traditional business might have utility. Additionally, the integration of private equity and venture capital funding to complement Government funding could support the mission of NSIC, but would require thinking creatively about how to foster and engage that private sector finance community to support defense needs.

Research and Development roadmap for technologies for operations in the information environment

The committee remains deeply concerned that the Department of Defense (DOD) is not effectively preparing the joint force to conduct rapid coordinated operations in the information environment. While there has been recognition of the challenges inherent in this, as indicated by the development of the Strategy and Joint Concept for Operating in the Information Environment, such documents have not been translated into tangible actions or capabilities. For example, the 2018 report, "Implementation of the Department of Defense 2016 Strategy for Operations in the Information Environment," lacked detail, defined actions, or tangible metrics to lead to any meaningful progress.

The committee believes that the Department should be taking concrete steps to move beyond rhetoric to measurable action and empowering the Principal Information Operations Advisor to create capabilities that benefit the joint force. The committee notes that a glaring deficiency for the Department is the lack of a full spectrum suite of technical capabilities and underlying science and technology base to address the gaps and investment needs of the joint force.

To that end, the committee directs the Secretary of Defense, acting through the Under Secretary of Defense for Research and Engineering and in consultation with the Principal Information Operations Advisor, to submit a research and development (R&D) roadmap for technologies that support operations in the information environment to the congressional defense committees, not later than December 15, 2023.

This R&D roadmap shall be submitted in an unclassified format (but may include a classified annex) and shall include the following elements:

(1) An assessment of relevant ongoing or planned across the future years defense plan (FYDP) science and technology needs for the joint force (including a repository to track those efforts);

(2) A gap analysis of science and technology needs not currently being addressed in the current fiscal year 2023 budget across the FYDP;

(3) A list of technology needs across the FYDP prioritized by operational joint forces;

(4) Identification of relevant technical standards that could be used to guide development of a unifying architecture for relevant capabilities;

(5) An assessment of the in-house R&D capabilities and scientific support that might be provided through a federation of capabilities from the DOD research, development, test, and evaluation enterprise;

(6) Identification and assessment of wargaming, prototyping, and experimentation venues to support capability development and validation;

(7) Identification of a technology scouting process, as well as existing capabilities with the DOD that might be used to organize and staff such a process;

(8) Development of a concept for an information operations campaign component to support integrated deterrence; and

(9) Supporting metrics, measures of performance and data to support the application of modeling, simulation, and artificial intelligence-enabled predictive analysis to support the joint force.

Reusable commercial capabilities for rapid hypersonic prototyping

The committee commends the Department of Defense for years of meaningful investment and concerted focus in developing, experimenting, and refining the application of hypersonic technologies to support warfighting missions. The committee recognizes the imperative to close the gap with foreign adversaries, but remains concerned that the technical risk, high cost of testing, and mission complexity have prevented the necessary scale and repetition of tests to keep pace with potential adversarial developments.

The committee believes that the Department could do more to take advantage of commercial solutions from the private sector in order to leverage reusable commercial hypersonic capabilities as a means to mitigate those challenges. For example, the committee notes that the Department's hypersonics developments have been hindered by booster development setbacks. Boosters are necessary to deliver hypersonic payloads to the altitude and speed needed. However, slow booster development timelines and high development costs combined with multiple

booster test failures have consumed significant attention and resources away from hypersonics payload development and served as a limiting factor in validating those future capabilities. In addition to increasing the pace of testing, leveraging reusable hypersonic technology would position the Department to develop multi-mission hypersonic platforms, a leap-ahead capability.

Therefore, the committee directs the Under Secretary of Defense for Research and Engineering, in consultation with the Director of the Joint Hypersonics Transition Office and the Service Acquisition Executives, to provide a briefing to the congressional defense committees, not later than March 1, 2023, describing the strategy to effectively mature and transition reusable commercial hypersonic technologies. This briefing shall include: (1) Efforts within the military services to invest in or leverage commercial launch or recoverable or reusable platforms to accelerate hypersonic payload testing and the testing needed for hypersonic advanced technologies to demonstrate maturity and readiness to insert in military service baseline programs; (2) Technology insertion processes within military service-led programs to integrate commercial or Government developed technology into baseline programs; (3) How flexible acquisition authorities or non-traditional partnerships could be better leveraged for these programs; and (4) Recommended suggestions for providing Defense-wide resources to support or augment military service-led execution of their programs.

SkyRange

The committee notes the development of SkyRange under the Test Resource Management Center to provide increased flight test capacity, operational flexibility, and improved quality data collection.

The committee urges the Secretary of Defense to consider making RQ-4 Block 30 aircraft available to the SkyRange initiative following Air Force divestment of such aircraft.

Smart concrete material development

The committee is aware that the Department of Defense (DOD) mission is critically reliant upon its transportation infrastructure, including road networks, bridges, airfields, ports and railroads, many of which contain concrete. The committee understands developing innovative materials could allow the concrete to adapt to the loading environment and provide information for real-time health monitoring of infrastructure such as roads, airfields, bridges, and buildings.

These smart concrete materials will improve the performance of concrete structural elements, allow faster return to service of repaired pavements, reduce maintenance costs, and provide real-time condition monitoring of critical infrastructure. The committee encourages the DOD to develop novel smart concrete materials technology for constructing sustainable infrastructure for the DOD.

Software first strategies

The committee recognizes that software-defined advanced technologies, such as autonomy, artificial intelligence, and machine learning, are increasingly essential to the way the United States and adversaries are delivering and employing effects on the battlefield. Software-defined technologies enable the rapid integration of new components, sensors, and effectors into a family of systems that are necessary to keep pace with rapidly evolving technologies and threats confronting U.S. and allied forces. Legacy weapons systems have historically been defined by their hardware platforms, leaving software capabilities siloed and making interoperability costly and time-consuming. To take full advantage of advanced technologies and accelerate the continuous delivery of modern defense capabilities, the committee believes that the Department of Defense should utilize software-first acquisition strategies that prioritize industry partners with leading software expertise to serve as a mission integration partner, particularly for capabilities that require the integration of third-party sensors and effectors deployed across domains.

The committee is encouraged by U.S. Special Operations Command's recent utilization of this approach for its counter-unmanned systems (C-UxS) Systems Integration Partner (SIP) program. This program, which is currently fielding a family of systems to address the rapidly evolving C-UxS threat, employs a software-first acquisition model that requires the SIP to continuously adapt and integrate best-in-class sensors and effectors produced by many vendors to defeat evolving unmanned threats. The program leveraged a competitive downselect process that culminated in a multi-day prototype demonstration to test and evaluate several vendors' ability to counter the UxS threat in a deployed environment. The committee recognizes that such an approach not only avoids technological obsolescence but also vendor lock. The committee is aware that the Joint Counter-small Unmanned Aircraft Systems Office (JCO) is reviewing the SIP approach as part of its mandate as the executive agent for counter-small UxS. The committee supports this competitive model and encourages the JCO and the military services' acquisition

executives to utilize existing authorities to apply this software-first approach to future C-UxS and other acquisition programs where appropriate.

Sustainable Technology Evaluation and Demonstration program

The committee commends the Office of the Assistant Secretary of Defense for Energy, Installations, and Environment (ASD(EI&E)) for initiating the Sustainable Technology Evaluation and Demonstration (STED) program and conducting successful sustainable technology demonstrations that enhance and sustain mission readiness; reduce health and safety impacts to the warfighter; increase supply chain security and the use of domestically-sourced materials; improve operational performance; reduce life-cycle costs; and lessen waste and environmental impacts on installations and bases.

Furthermore, the committee believes that formalizing the STED program as a program of record within the Department of Defense can facilitate broader awareness and increased acceptance of sustainable technologies. Additionally, the committee encourages the Department to consider developing and implementing additional efforts to enable the transition and broad use of successfully demonstrated technologies. Accordingly, the committee directs the ASD(EI&E) to provide a briefing to the committee, not later than March 1, 2023, addressing progress in implementing and expanding the STED program to include securing participation with major commands.

Terrain-shaping capabilities

The committee recognizes the importance of terrain-shaping capabilities and the necessary role they play to protect friendly ground forces, enhance friendly effects, and influence enemy maneuver and movement. The committee commends the Department of Defense for developing landmine alternatives and encourages aggressive development of these capabilities.

However, the committee notes that alternative terrain-shaping capabilities will not be fielded in quantity until the early 2030s and encourages the Department to maintain current stocks of functional landmines and other terrain-shaping capabilities until that time. The committee directs the Secretary of Defense to provide a briefing to the Committees on Armed Services of the Senate and the House of Representatives, not later than December 15, 2022, on the timeline for acquisition and fielding of landmine alternatives, and the current and projected inventory of landmine and terrain-shaping capabilities until replaced by advanced landmine alternatives.

Ultra-long endurance unmanned aerial systems

The committee is aware that the Office of Naval Research is developing an operational unmanned intelligence, surveillance, and reconnaissance (ISR) capability and that the current development effort has produced an ultra-long endurance unmanned aerial system. The committee believes that this can provide warfighters not only a longer endurance at an attritable cost point, but also a significant increase in payload capacity compared to existing systems. The committee believes that this will allow a multitude of different sensors that can be carried simultaneously on a single flight, enabling multi-intelligence missions.

The committee is concerned that combatant commands have a critical requirement for persistent airborne ISR in active and low-intensity conflicts across highly dispersed regions that is not being met by existing unmanned aerial systems.

Therefore, the committee directs the Chief of Naval Research to provide a briefing to the congressional defense committees, not later than March 1, 2023, explaining how ISR capabilities on persistent, ultra-long endurance (multi-day) unmanned aerial systems, that are currently in development, address these threats, and a description of any planned future efforts to further develop these critical capabilities, including future funding needs.

Wearable Gesture Control Technology

The committee encourages the Army to continue efforts to accelerate the development of gesture control technologies that can augment the warfighter by enhancing versatility, survivability, and lethality. Machine learning-enabled gesture control technology to include a wearable capability that harnesses wrist-based neural and physical gesture impulses to control digital interfaces, unmanned systems, and communications, will ensure seamless interface between the warfighter and the digital interfaces under their control. The committee recognizes the importance of wearable gesture control technology as a cross-cutting force multiplier and supports development and integration of this dual-purpose capability across the services.

TITLE III—OPERATION AND MAINTENANCE

SUBTITLE A—AUTHORIZATION OF APPROPRIATIONS

Authorization of appropriations (sec. 301)

The committee recommends a provision that would authorize the appropriations for operation and maintenance activities at the levels identified in section 4301 of division D of this Act.

SUBTITLE B—ENERGY AND ENVIRONMENT

Aggregation of energy conservation measures and funding (sec. 311)

The committee recommends a provision that would amend section 2911 of title 10, United States Code, to require the Department of Defense to consider aggregate energy conservation measures with energy resilience enhancement projects and other projects that may have a longer payback period.

Establishment of joint working group to determine joint requirements for future operational energy needs of Department of Defense (sec. 312)

The committee recommends a provision that would direct the Secretary of Defense to establish a joint working group to determine joint requirements for future operational energy needs of the Department of Defense.

Additional special considerations for developing and implementing the energy performance goals and energy performance master plan of the Department of Defense (sec. 313)

The committee recommends a provision that would amend section 2911(e) of title 10, United States Code, to require the Department of Defense to consider the reliability and security of energy resources in the event of a military conflict and the value of resourcing energy from allies in the North Atlantic Treaty Organization along with other major allies.

Participation in pollutant banks and water quality trading (sec. 314)

The committee recommends a provision that would amend chapter 159 of title 10, United States Code, to authorize the Secretary of Defense to make payments to a pollutant banking program or water quality trading program when engaged in an authorized activity that may or will result in the discharge of pollutants.

Consideration under Defense Environmental Restoration Program for State-owned facilities of the National Guard with proven exposure of hazardous substances and waste (sec. 315)

The committee recommends a provision that would restore the National Guard's access to the Defense Environmental Restoration Program.

Authorization of closure of Red Hill bulk fuel storage facility (sec. 316)

The committee recommends a provision that would authorize the Secretary of Defense to close the Red Hill bulk fuel storage facility and require a plan for the closure, cleanup, monitoring, and maintenance of the facility following closure.

Revision of Unified Facilities Guide Specifications and Unified Facilities Criteria to include specifications on use of gas insulated switchgear and criteria and specifications on microgrids and microgrid converters (sec. 317)

The committee recommends a provision that would direct the Under Secretary of Defense for Acquisition and Sustainment to establish specifications and standards for microgrids, microgrid controllers, and gas insulated switchgear.

Transfer of customers from electrical utility system of the Navy at former Naval Air Station Barber's Point, Hawaii, to new electrical system in Kalaeloa, Hawaii (sec. 318)

The committee recommends a provision that would require the Secretary of the Navy, subject to the availability of appropriations, to pay the reasonable costs to transfer customers off of the electrical utility system located at former Naval Air Station Barber's Point, Hawaii, to the new electrical system in Kalaeloa, in accordance with a prior Base Realignment and Closure decision.

Pilot program on use of sustainable aviation fuel (sec. 319)

The committee recommends a provision that would require the Department of Defense to conduct a pilot program on the use of 10 percent blend sustainable aviation fuel at two geographically diverse locations by 2028.

Renewal of annual environmental and energy reports of Department of Defense (sec. 320)

The committee recommends a provision that would consolidate two long-standing annual environmental and energy reports done by the Department of Defense into one report.

Report on feasibility of terminating energy procurement from foreign entities of concern (sec. 321)

The committee recommends a provision that would require the Assistant Secretary of Defense for Energy, Installations, and Environment to provide a report on the feasibility and advisability of terminating energy procurement by the Department of Defense from foreign entities of concern.

SUBTITLE C—TREATMENT OF PERFLUOROALKYL SUBSTANCES AND POLYFLUOROALKYL SUBSTANCES

Increase of transfer authority for funding of study and assessment on health implications of per- and polyfluoroalkyl substances contamination in drinking water by Agency for Toxic Substances and Disease Registry (sec. 331)

The committee recommends a provision that would amend section 316 of the National Defense Authorization Act for Fiscal Year 2018 (Public Law 115-91), as most recently amended by section 342 of the National Defense Authorization Act for Fiscal Year 2022 (Public Law 117-81), to extend the authorization and funding transfer for the ongoing study and assessment on human health impacts of per- and polyfluoroalkyl substances in drinking water by the Centers for Disease Control and Prevention.

Modification of limitation on disclosure of results of testing for perfluoroalkyl or polyfluoroalkyl substances on private property (sec. 332)

The committee recommends a provision that would amend section 345(a)(2) of the National Defense Authorization Act for Fiscal Year 2022 (Public Law 117-81) to clarify for the Department of Defense that personally identifiable information should not be publicly released without the consent of the private property owner when publishing water testing results for per- and polyfluoroalkyl substances.

Department of Defense research relating to perfluoroalkyl or polyfluoroalkyl substances (sec. 333)

The committee recommends a provision that would require the Secretary of Defense to publish on the publicly available website established under sec. 331(b) of the National Defense Authorization Act for Fiscal Year 2020 (Public Law 116-92) timely and regularly updated information on the research efforts of the Department of Defense relating to per- and polyfluoroalkyl substances.

SUBTITLE D—LOGISTICS AND SUSTAINMENT

Implementation of Comptroller General recommendations regarding Shipyard Infrastructure Optimization Plan of the Navy (sec. 351)

The committee recommends a provision that would direct the Navy to implement the remaining recommendations from the Government Accountability Office (GAO) report on the Shipyard Infrastructure Optimization Plan (SIOP), published May 10, 2022, titled "Naval Shipyards: Ongoing Challenges Could Jeopardize Navy's Ability to Improve Shipyards" (GAO-22-105993). The committee concurs with the Comptroller General of the United States that the Navy's SIOP would benefit from factoring in all costs when developing its second, more detailed cost estimates, using cost estimating best practices, and obtaining independent cost estimates prior to the start of its project prioritization effort.

Research and analysis on the capacity of private shipyards in the United States and the effect of those shipyards on Naval fleet readiness (sec. 352)

The committee recommends a provision that would require the Secretary of the Navy to enter into an agreement with a nonprofit or federally funded research and development center (FFRDC) to conduct research on the capacity and capability of U.S. private shipyards in the repair, maintenance, and modernization of naval ships to ensure fleet readiness.

The provision would also require the FFRDC to provide a report on the results of the research and analysis and require the Secretary to transmit the report to the Congress.

Limitation on funds for the Joint Military Information Support Operations Web Operations Center (sec. 353)

The committee recommends a provision that would prohibit the obligation or expenditure of more than 50 percent of the funds available for the Joint Military Information Support

Operations Web Operations Center (JMWC) until the Secretary of Defense provides the committees with a plan for appropriately managing and overseeing various aspects of the JMWC's operations.

The committee strongly supports efforts by the Department of Defense to conduct and improve operations in the information environment, including through web-based military information support operations. However, the committee is concerned that without clear policy guidance and procedures from the Secretary of Defense, the activities of the JMWC will not appropriately focus on clearly defined foreign target audiences, support valid military objectives, and balance the risks associated with the conduct of such operations. The committee expects continual improvement in all of these areas as the JMWC approaches full operational capability in the coming years.

Notification of increase in retention rates for Navy ship repair contracts (sec. 354)

The committee recommends a provision that would require a congressional notification prior to making a change to increase retention rates for Navy ship repair contracts.

Inapplicability of advance billing dollar limitation for relief efforts following major disasters or emergencies (sec. 355)

The committee recommends a provision that would amend section 2208 of title 10, United States Code, to authorize an exemption for Defense working capital fund advanced billing to occur in the event of a declared national emergency.

Repeal of Comptroller General review on time limitations on duration of public-private competitions (sec. 356)

The committee recommends a provision that would repeal an outdated requirement for the Government Accountability Office to report on certain aspects of public-private competitions.

SUBTITLE E—REPORTS

Inclusion of information regarding joint medical estimates in readiness reports (sec. 371)

The committee recommends a provision that would amend section 482(b) of title 10, United States Code, to include a summary of the joint medical estimate prepared by the Joint

Staff Surgeon with a mitigation plan in the regular classified readiness reports to Congress.

SUBTITLE F—OTHER MATTERS

Implementation of recommendations relating to animal facility sanitation and master plan for housing and care of horses (sec. 381)

The committee recommends a provision that would direct the Secretary of the Army to implement the recommendations of the equine veterinarian contained in the memo, dated February 25, 2022, titled "Animal Facility Sanitation Inspection Findings for the Fort Myer Caisson Barns/Paddocks and the Fort Belvoir Caisson Pasture Facility." The provision would also require the Secretary of the Army to submit a master plan for the housing and care of all horses within the care of the 3rd U.S. Infantry.

The committee notes that two horses with the 3rd U.S. Infantry at Fort Myer died within 96 hours of each other in February, both from having severe gravel and sand impaction in their digestive system. Subsequent tests performed on the 25 horses at Fort Myer at the end of February found that 80 percent of the horses had either high or moderate levels of sediment in their system. The committee understands that the recommended acreage for healthy horses is 1 to 2 acres per horse. However, the entire pasture facility at Belvoir only consists of 6 acres and there are 64 horses total in the herd being managed by the 3rd U.S. Infantry.

The committee understands that 3 years-worth of monthly unsatisfactory condition reports of animal waste disposal, insufficient pasture or training areas, and moldy food for the horses occurred from February 2019 to February 2022. Not a single report provided was without at least one unsatisfactory assessment. One lot for horses on Fort Myer contains 18 to 20 inches of mud and excrement on an inappropriately graded hillside making the lot extremely unsafe. The findings cited "additional injury, to include death, can be expected with continued use of the lot in its current condition" and "the run-off into adjacent public areas also creates a public health hazard."

Army leaders briefed the committee that they already have all the required funding to design and execute new, sanitary facilities for Army horses. There are clearly immediate fixes that need to be made. The Army is strongly encouraged to exercise its unspecified minor military construction authority to expedite the construction of new facilities. Given the grave

and unsanitary conditions, decisive action is necessary as soon as possible.

Furthermore, the committee requires the Secretary of the Army, not later than March 1, 2023, to provide a briefing to the committee on all sites where the Army currently houses and cares for military working horses. The briefing should include the size of the herd, size of the facility, whether monthly condition reports have been conducted at each site, and whether there have been any unsatisfactory condition reports over the past 2 years.

Inclusion of land under jurisdiction of Department of Defense subject to long-term real estate agreement as community infrastructure for purposes of Defense community infrastructure pilot program (sec. 382)

The committee recommends a provision that would amend section 2391(e)(4)(A)(i) of title 10, United States Code, to add land under long-term real estate agreements to the list of criteria for possible construction projects under the Defense Community Infrastructure Pilot Program.

Restriction on procurement or purchasing by Department of Defense of turnout gear for firefighters containing perfluoroalkyl substances or polyfluoroalkyl substances (sec. 383)

The committee recommends a provision that would require, with a waiver, the Department of Defense to phase out turnout gear for Federal firefighters containing per- and polyfluoroalkyl substances by the end of 2026.

Continued designation of Secretary of the Navy as executive agent for Naval Small Craft Instruction and Technical Training School (sec. 384)

The committee recommends a provision that would require the Secretary of the Navy to continue to perform the responsibilities of the Department of Defense executive agent for the Naval Small Craft Instruction and Technical Training School pursuant to section 352(b) of title 10, United States Code, and provide such support, as necessary, for the continued operation of the school through fiscal year 2023.

Prohibition on use of funds to discontinue the Marine Mammal System program (sec. 385)

The committee recommends a provision that would require a certification from the Secretary of the Navy prior to the termination of the Marine Mammal System (MMS).

The committee is concerned with the budget request's proposal to defund and eliminate the MMS, which has been in existence since the 1970s and continues to provide port security at select Navy bases with Mark-6 systems and mine search capabilities by finding and marking mines with Mark-7 systems.

The committee notes it has been the Navy's plan to replace Mark-7 systems with unmanned underwater vehicles (UUVs) for several years. Though UUV technology is improving, the committee is concerned that UUVs remain significantly less capable than Mark-7 mammals, particularly in areas with narrow lanes, buried mines, and very cluttered bottom types. The committee is also concerned that UUVs have a lower rate of success and do not have buried detection capability.

Accordingly, the committee believes the MMS should be retained, particularly since it serves as the Navy's only reliable shallow water buried mine hunting capability until UUVs are proven to have equivalent or better capability.

Before the Navy is permitted to retire the MMS, the committee needs to understand the extent to which such action will result in capability gaps, particularly related to mine countermeasures; what, if any, plans the Navy has for replacing the full range of MMS capabilities; and when such capabilities will be operationally effective and suitable. The committee directs the Secretary of the Navy to provide a report to the congressional defense committees, not later than December 1, 2022, that includes a comparison of the capability of the MMS and existing UUV technology, as well as a projection of potential UUV improvements and a schedule for fielding those improvements.

Limitation on replacement of non-tactical vehicle fleet of the Department of Defense with electric vehicles, advanced-biofuel-powered-vehicles, or hydrogen-powered vehicles (sec. 386)

The committee recommends a provision that would require a detailed report that examines the complete cost estimates, material vulnerabilities, and various other cost-benefits assessments before requiring, with certain waivers, that the Department of Defense's fleet of non-tactical vehicles be alternatively fueled vehicles by the end of 2030.

Limitation on use of charging stations for personal electric vehicles (sec. 387)

The committee recommends a provision that would prohibit the Secretary of Defense from permitting the charging of personal electric vehicles through charging stations provided by the Department of Defense unless the charging infrastructure allows for the receipt of payment for such charging.

Pilot programs for tactical vehicle safety data collection (sec. 388)

The committee recommends a provision that would direct the Secretary of the Army and Secretary of the Navy to conduct pilot programs to evaluate the use of data recorders to monitor, assess, and improve the operation of military tactical vehicles for the purpose of reducing accidents and injuries.

BUDGET ITEMS

Increase for Army Caisson platoon facility improvements

The budget request included \$58.1 billion in Operation and Maintenance, Army (OMA), of which \$2.6 billion was for SAG 114 Theater Level Assets and \$4.6 billion was for SAG 132 Facilities Sustainment, Restoration, and Modernization.

Elsewhere in this Act, the committee recommends a provision that would direct the Secretary of the Army to implement the recommendations of the equine veterinarian contained in the findings of the animal facility sanitation inspection of the Fort Myer Caisson barns/paddocks and the Fort Belvoir Caisson pasture facility. The committee also recommends additional funding for necessary facilities improvements and maintenance at both locations.

Accordingly, the committee recommends the following increases: \$17.9 million for equine facility stable and ground improvements in OMA SAG 132 and \$5.0 million for equine maintenance in OMA SAG 114.

Facilities Sustainment, Restoration, and Modernization

The budget request included \$4.6 billion in Operation and Maintenance, Army (OMA) for SAG 132 Facilities, Sustainment, Restoration, and Modernization; \$1.0 billion in Operation and Maintenance, Army National Guard (OMARNG) for SAG 132 Sustainment, Restoration, and Modernization; \$358.7 million in Operation and Maintenance, Army Reserve (OMAR) for SAG 132 Sustainment, Restoration, and Modernization; \$3.5 billion in Operation and Maintenance, Navy (OMN), for SAG BSM1 Sustainment, Restoration and Modernization; \$44.7 million in Operation and

Maintenance, Navy Reserve (OMNR) for SAG BSMR Sustainment, Restoration and Modernization; \$1.2 billion in Operation and Maintenance, Marine Corps (OMMC), for SAG BSM1 for Sustainment, Restoration and Modernization; \$118.3 million in Operation and Maintenance, Marine Corps Reserve (OMMCR) for SAG BSM1 Sustainment, Restoration and Modernization; \$4.0 billion in Operation and Maintenance, Air Force (OMAF), for SAG 011R for Sustainment, Restoration and Modernization; \$437.0 million in Operation and Maintenance, Air National Guard (OMANG) for SAG 11R for Sustainment, Restoration and Modernization; \$133.7 million in Operation and Maintenance, Air Force Reserve (OMAFR) for SAG 11R Sustainment, Restoration and Modernization; and \$235.2 million in Operation and Maintenance, Space Force (OMSF) for SAG 13R Sustainment, Restoration and Modernization.

The committee understands that additional funds would alleviate current challenges in maintaining facilities to better support existing readiness levels, while increased sustainment funding would also prevent disproportionate restoration and modernization backlog growth.

Accordingly, the committee recommends the following increases in facilities sustainment, restoration, and modernization: \$538.9 million in OMA for SAG 132, \$130.3 million in OMARNG for SAG 132, \$46.4 million in OMAR for SAG 132, \$435.0 million in OMN for SAG BSM1, \$25.0 million in OMNR for SAG BSMR, \$559.0 million in OMMC for SAG BSM1, \$4.3 million in OMMCR for SAG BSM1, \$550.4 million in OMAF for SAG 011R, \$56.1 million in OMANG for SAG 11R, \$17.5 million in OMAFR for SAG 11R, and \$38.4 million in OMSF for SAG 13R.

United States Africa Command Combatant Command support

The budget request included \$385.7 million in Operation and Maintenance, Army (OMA) for SAG 141 U.S. Africa Command (AFRICOM).

The committee notes a requirement found elsewhere in this report for the Secretary of Defense, in consultation with the Commander of AFRICOM, to conduct a review of Department of Defense multilateral exercises in the AFRICOM area of responsibility and develop a plan to rotate the hosting arrangements and locations of such exercises. The committee understands that such a review may incur additional costs.

Accordingly, the committee recommends an increase of \$10.0 million in OMA SAG 141 for AFRICOM to support efforts to assess alternative locations and host arrangements for multilateral exercises with African partners.

United States Africa Command force protection systems

The budget request included \$385.7 billion for Operations and Maintenance, Army (OMA) SAG 141 for U.S. Africa Command.

The committee notes that U.S. Africa Command (AFRICOM) identified force protection as an unfunded priority.

Therefore, the committee recommends an increase of \$8.1 million to OMA SAG 141 for AFRICOM force protection systems.

United States Africa Command intelligence surveillance and reconnaissance

The budget request included \$58.1 billion for Operations and Maintenance, Army (OMA), of which \$2.1 billion was for SAG 411 Security Programs.

The committee notes that U.S. Africa Command (AFRICOM) identified intelligence, surveillance, and reconnaissance (ISR) as an unfunded priority.

Therefore, the committee recommends increases of \$214.8 million in the OMA SAG 411 Security Programs for AFRICOM ISR and associated production, exploitation, and dissemination support and \$4.6 million in Operations and Maintenance, Defense-wide, SAG 141 U.S. Africa Command.

United States Southern Command Enhanced Domain Awareness

The budget request included included \$58.1 billion in Operation and Maintenance, Army (OMA), of which \$204.3 million was for SAG 143 U.S. Southern Command (SOUTHCOM).

The SOUTHCOM area of responsibility offers a unique opportunity to serve as an innovation testbed in a permissive environment. The Enhanced Domain Awareness (EDA) platform would enable SOUTHCOM to leverage artificial intelligence and machine learning to develop an enhanced understanding of the threat environment in Latin America and the Caribbean. The EDA capability would also help to mitigate the impact of chronic shortfalls in traditional intelligence, surveillance, and reconnaissance allocated to SOUTHCOM.

Therefore, the committee recommends an increase of \$4.1 million in OMA SAG 143 for SOUTHCOM Enhanced Domain Awareness.

United States Southern Command intelligence, surveillance, and reconnaissance

The budget request included \$58.1 billion in Operation and Maintenance, Army (OMA), of which \$2.1 million was requested for SAG 411 Security Programs.

The committee notes that U.S. Southern Command (SOUTHCOM) has sought to offset persistent shortfalls in its allocation of traditional intelligence, surveillance, and reconnaissance (ISR) through non-standard collection methods combined with innovative analytic techniques. The committee believes SOUTHCOM's use of advanced ISR tools offers relatively low-cost and low-risk investments that position the United States to better compete strategically.

Therefore, the committee recommends an increase of \$10.2 million in OMA SAG 411 for high altitude balloon and an increase of \$19.9 million in OMA SAG 411 for additional ISR systems.

Foreign currency fluctuations

The budget request included \$309.3 billion in Operation and Maintenance.

The committee notes that the Government Accountability Office has repeatedly issued recommendations for the Department of Defense to analyze its Foreign Currency Fluctuations (FCF), Defense account balance given historical trends and managerial use of the account.

Accordingly, the committee recommends an undistributed decrease of \$785.2 million across the Operation and Maintenance accounts for FCF.

Increase for inflation effects

The committee recommends an increase of \$13.0 billion for inflation effects, of which \$5.5 billion is distributed among the Operation and Maintenance accounts.

Unobligated balances

The budget request included \$309.3 billion across the Operation and Maintenance accounts.

The committee notes that the Government Accountability Office has repeatedly issued recommendations for the Department of Defense to analyze its unobligated balances given historical trends and managerial use of the account.

Accordingly, the committee recommends a decrease of \$418.7 million across the Operation and Maintenance accounts of the active and reserve components. The committee also recommends a decrease of \$9.8 million in SAG 1PL1 Joint Chiefs of Staff, a decrease of \$2.6 million in SAG 4GT6 Defense Contract Audit Agency, a decrease of \$15.5 million in SAG 4GTO Defense Contract Management Agency, a decrease of \$33.2 million in SAG 4GT9

Defense Information Systems Agency, and a decrease of \$6.5 million in SAG 4GTB Defense Logistics Agency.

Continued ship operations

The budget request included a Navy proposal to decommission 24 battle force ships in fiscal year 2023, which represents 8 percent of the Navy's 298 ship battle force. Of these 24 ships, only eight ships are at or beyond their expected service life (ESL), and 16 ships would be retired prior to ESL.

Consistent with provisions elsewhere in this Act that would establish a floor of not fewer than 31 operational amphibious warfare ships and would prevent early retirement of other retiring battle force ships prior to ESL, the committee recommends increases in Operation and Maintenance, Navy (OMN) to restore funding for 12 ships:

- (1) OMN (1B1B) - \$153.0 million;
- (2) OMN (1B4B) - \$115.8 million; and
- (3) OMN (1B5B) - \$446.4 million.

Marine mammal system continuation

The budget request included \$66.2 billion in Operation and Maintenance, Navy (OMN), of which \$2.3 billion was requested for SAG 1C6C Combat Support Forces, with no funding requested to support the Marine Mammal System (MMS).

The budget request included a Navy proposal to retire the MMS in fiscal year 2023. Although unmanned undersea vessels (UUVs) show promise, fielded UUV programs do not yet match the capability and reliability of marine mammals to perform the full range of MMS missions, including location and marking of buried mines.

Therefore, the committee recommends an increase of \$6.6 million in OMN SAG 1C6C Combat Support Forces to continue the MMS program in fiscal year 2023.

Increase for Energy Resilience Readiness Exercises

The budget request included \$477.5 million in Operation and Maintenance, Navy (OMN) for SAG 1CCY and \$2.7 billion in Operation and Maintenance, Marine Corps (OMMC) for SAG BSS1, of which no funds were for Energy Resilience Readiness Exercises (ERREs).

The committee continues to support the significant success of "black start" ERREs performed by the military services and overseen by the Department of Defense (DOD). The committee

believes that low-cost ERREs, which each cost roughly \$500,000, provide a real-world opportunity to “pull the plug” on military installations and truly test how each would respond in the event of a cyberattack or natural disaster. The committee believes that this is a small but warranted investment for DOD installation readiness.

Accordingly, the committee recommends an increase of \$2.0 million in OMN SAG 1CCY to conduct three ERREs and an increase of \$1.0 million in OMMC SAG BSS1 to conduct two ERREs.

More Situational Awareness for Industrial Control Systems

The budget request included \$66.2 billion in Operation and Maintenance, Navy (OMN), of which \$477.5 million was requested for SAG 1CCY Cyberspace Activities.

The committee recommends an increase of \$26.0 million in OMN SAG 1CCY Cyberspace Activities to enable the Navy to transition the More Situational Awareness for Industrial Control Systems (MOSAICS) Joint Capability Technology Demonstration for cybersecurity of industrial control systems.

The committee notes that MOSAICS orchestration technology was first developed in a cooperative initiative of the National Security Agency, industry, and a University Affiliated Research Center. The committee believes this technology is important for Department of Defense to secure its mission essential operational technology.

Operation and Maintenance realignment of funds

The budget request included \$58.3 billion for Operation and Maintenance, Air Force (OMAF), of which \$2.7 billion was for SAG 011C Combat Enhancement Forces and \$1.3 billion was for SAG 042A Administration.

The committee has been informed by the Air Force that funding for these programs should be in different SAGs than what was in the budget request.

Therefore, the committee recommends the following: (1) A decrease of \$60.0 million in SAG 011C and an increase of \$60.0 million in SAG 011A Primary Combat Forces; and (2) A decrease of \$33.7 million in SAG 042A and an increase of \$33.7 million in SAG 041A Logistics Operations.

United States Northern Command Information Dominance Enabling Capability

The budget request included \$58.3 billion in Operation and Maintenance, Air Force (OMAF), of which \$197.2 million was for

SAG 015C U.S. Northern Command/North American Aerospace Defense Command.

The Commander, U.S. Northern Command, has prioritized the importance of information dominance through the aggregation, processing, display, and dissemination of data from across all domains. The committee supports these efforts to enable information sharing and real-time collaboration utilizing artificial intelligence and machine learning capabilities.

Therefore, the committee recommends an increase of \$29.8 million in OMAF SAG 015C for information dominance enabling capability.

Hunt forward operations

The budget request included \$3.0 billion for Operation and Maintenance, Air Force (OMAF), of which \$463.8 million was requested for SAG 15E U.S. Cyber Command (CYBERCOM).

The committee strongly supports the contributions that hunt forward operations have made to the persistent engagement cyber strategy of the Department of Defense.

Accordingly, the committee recommends an increase of \$15.3 million in OMAF SAG 15E specifically to support hunt forward operations.

Office of Security Cooperation-Iraq reduction

The budget request included \$331.2 million in Operation and Maintenance, Air Force (OMAF) for SAG 015F, U.S. Central Command (CENTCOM), of which \$30.0 million was for the Office of Security Cooperation-Iraq (OSC-I).

The committee expects the OSC-I to further continue its transition to a normalized security cooperation office, including by transitioning funding for its operations to the Foreign Military Financing Administrative Fund and the Foreign Military Sales Trust Fund Administrative Surcharge Account.

Therefore, the committee recommends a decrease of \$10.0 million in OMAF SAG 015F for the OSC-I. The committee notes that there is a corresponding legislative provision elsewhere in this Act.

Cyber Operations Force Development and Support Program realignment of funds

The budget request included \$58.3 billion for Operation and Maintenance, Air Force (OMAF), of which \$436.8 million was for SAG 015E US CYBERCOM.

The committee has been informed by the Air Force that funding for the Cyber Operations Force Development and Support program should be in a different SAG than what was in the budget request.

Therefore, the committee recommends a decrease of \$5.0 million in OMAF SAG 015E and an increase of \$5.0 million in OMAF SAG 012S Joint Cyber Mission Force Programs.

Cheyenne Mountain Complex

The budget request included \$4.0 billion in Operation and Maintenance, Space Force (OMSF), of which \$235.3 million was requested for SAG 13R Facilities Sustainment, Restoration, and Modernization.

The Commander, U.S. Northern Command, requested funding on the unfunded priorities list to support refurbishment of the Cheyenne Mountain Complex.

Therefore, the committee recommends an increase of \$43.8 million in OMSF for SAG 13R for the infrastructure recapitalization of the Cheyenne Mountain Complex to include: (1) Reconditioning of two 1960s vintage diesel generators; (2) Repairing blast valve components; (3) Repairing heating, ventilation, and air conditioning systems; (4) replacing the uninterrupted power supply battery system; and (5) providing interior contingency billeting and storage facilities. The committee also recommends an increase of \$5.5 million in OMSF for SAG 13Z Space Operations-BOS.

Civilian Harm Mitigation and Response Action Plan Implementation

The budget request did not include funding in Operation & Maintenance, Defense-wide (OMDW) for implementation of the Civilian Harm Mitigation and Response Action Plan by the Office of the Secretary of Defense.

The committee strongly supports efforts by the Department of Defense to help prevent, respond to, and learn from incidents of civilian harm resulting from U.S. military operations.

Therefore, the committee recommends an additional \$10.0 million in OMDW SAG 4GTN Office of the Secretary of Defense, for implementation of the Civilian Harm Mitigation and Response Action Plan by the Office of the Secretary of Defense, including the establishment of an office to serve as the focal point within the Department for all matters relating to civilian harm.

Additionally, the committee recommends an additional \$10.0 million in OMDW SAG 1PL1 Joint Chiefs of Staff, for the Joint Chiefs of Staff to provide dedicated resources to the geographic

combatant commands for implementation of the Civilian Harm Mitigation and Response Action Plan.

Combatant Craft Medium refurbishment

The budget request included \$1.2 billion in Operation and Maintenance, Defense-wide (OMDW) for SAG 1PL7 U.S. Special Operations Command (SOCOM) Maintenance.

The committee notes that the Commander, SOCOM, has identified the refurbishment of a Combatant Craft Medium (CCM) to restore it to full operational capability as an unfunded requirement.

Therefore, the committee recommends an increase of \$4.3 million in OMDW SAG 1PL7 Special Operations Command Maintenance for CCM refurbishment.

Special operations support to irregular warfare

The budget request included \$3.3 billion in Operation and Maintenance, Defense-wide (OMDW) SAG 1PLR Special Operations Command (SOCOM) Theater Forces, including approximately \$10.0 million for activities conducted pursuant to the authority contained in section 1202 of the National Defense Authorization Act for Fiscal Year 2018 (Public Law 115-91).

The committee notes that section 1202 of the National Defense Authorization Act for Fiscal Year 2018, as amended, authorizes the obligation and expenditure of up to \$15.0 million per year in support of activities under the authority and understands the Department of Defense has identified emergent requirements that were not captured in the budget request.

Therefore, the committee recommends an increase of \$5.0 million in OMDW SAG 1PLR for activities conducted pursuant to the authority contained in section 1202 of the National Defense Authorization Act for Fiscal Year 2018.

STARBASE

The budget request included \$48.4 billion for Operation and Maintenance, Defense-wide (OMDW), of which \$139.7 million was for SAG 4GT3 Civil Military Programs. The budget request did not, however, include any funding under SAG 4GT3 for the Department of Defense Science and Technology Academies Reinforcing Basic Aviation and Space Exploration (STARBASE) program.

The committee notes that the STARBASE program is an effective program that improves the knowledge and skills of

students in kindergarten through 12th grade in science, technology, engineering, and mathematics.

Therefore, the committee recommends an increase of \$15.0 million for SAG 4GT3 Civil Military Programs for the STARBASE program.

Increase for beneficial ownership assessment program

The budget request included \$983.1 million in Operation and Maintenance, Defense-wide (OMDW) for SAG 4GTE Defense Counterintelligence and Security Agency (DCSA).

The committee notes that, according to the April 13, 2022, report as required by the committee report accompanying S. 2792 (S. Rept. 117-39), the National Defense Authorization Act for Fiscal Year 2022, as reported by the Senate Armed Services Committee, DCSA has estimated that implementation of section 847 of the National Defense Authorization Act for Fiscal Year 2020 (Public Law 116-92), related to assessment and mitigation of foreign ownership, control and influence (FOCI), would result in a 2,100 percent increase in workload above DCSA's existing FOCI workload under the National Industrial Security Program (NISP).

Accordingly, the committee recommends an increase of \$18.4 million in OMDW SAG 4GTE for DCSA's beneficial ownership assessment program, consisting of: \$3.6 million for counterintelligence (CI) support to NISP; \$10.6 million for industrial security support to section 847 implementation; and \$4.2 million for CI support to section 847 implementation.

Civilian harm mitigation institutional capacity building

The budget request included \$48.4 billion in Operation and Maintenance, Defense-wide (OMDW), of which \$2.4 billion was for SAG 4GTD Defense Security Cooperation Agency.

The committee believes that further efforts to build institutional capacity on issues of civilian harm mitigation are needed. In particular, the committee believes that development by the Defense Institute of International Legal Studies of robust assessment frameworks, risk analytic tools, and new training and advising materials would improve the ability to mitigate the risk of civilian harm.

Accordingly, the committee recommends an increase of \$1.0 million in OMDW SAG 4GTD for the Defense Institute of International Legal Studies for civilian harm mitigation efforts, to include the development of new training and advising materials.

Defense Security Cooperation Agency International Security Cooperation Program

The budget request included \$2.4 billion in Operation and Maintenance, Defense-wide (OMDW) SAG 4GTD Defense Security Cooperation Agency (DSCA). Of this amount, \$1.4 billion was for the International Security Cooperation Programs (ISCP) account.

The committee notes the critical importance of security cooperation activities to the Department of Defense's efforts to compete with near-peer rivals China and Russia, consistent with the National Defense Strategy (NDS). The committee is concerned that proposed reductions in security cooperation funding for U.S. Southern Command (SOUTHCOM), U.S. Africa Command (AFRICOM), and U.S. Northern Command (NORTHCOM) significantly below fiscal year 2022 enacted levels will adversely impact these commands' ability to fulfill the NDS mission requirements for strategic competition.

Therefore, the committee recommends an increase of \$46.0 million to OMDW for SAG 4GTD DSCA, for security cooperation activities and programs within the ISCP account and intends for this additional funding to be allocated as follows: \$20.0 million for SOUTHCOM; \$20.0 million for AFRICOM; and \$6.0 million for NORTHCOM.

Defense Security Cooperation Agency Regional Defense Combating Terrorism and Irregular Warfare Fellowship Program

The budget request included \$2.4 billion for Operation and Maintenance, Defense-wide (OMDW) for SAG 4GTD Defense Security Cooperation Agency (DSCA), of which \$28.3 million is for the Regional Defense Combating Terrorism and Irregular Warfare Fellowship Program (RDFP).

As noted elsewhere in this report, the committee strongly supports the Department of Defense instituting a Center for Security Studies in Irregular Warfare, consistent with section 1299L of the William M. (Mac) Thornberry National Defense Authorization Act for Fiscal Year 2021 (Public Law 116-283), and urges the Secretary of Defense to act expeditiously to exercise the authority under that section. A provision elsewhere in this Act provides additional authorities under the RDFP, as amended, to take initial steps to stand up such a center.

Therefore, the committee recommends an increase of \$5.0 million in OMDW SAG 4GTD for the RDFP for administrative and other costs associated with instituting the Center for Security Studies in Irregular Warfare.

Ukraine Security Assistance Initiative

The budget request included \$2.4 billion in Operation and Maintenance, Defense-wide (OMDW) SAG 4GTD Defense Security Cooperation Agency (DSCA), of which \$300.0 million was requested for the Ukraine Security Assistance Initiative.

The committee recommends a transfer of \$300.0 million from SAG 4GTD to a separate line for the Ukraine Security Assistance Initiative, and recommends an increase of \$500.0 million.

Impact aid

The budget request included \$48.4 billion in Operation and Maintenance, Defense-wide (OMDW), of which \$3.3 billion was for SAG 4GTJ, Department of Defense Education Activity. The amount authorized to be appropriated for OMDW includes the following changes from the budget request. The provisions underlying these changes in funding levels are discussed in greater detail in title V of this committee report.

[Changes in millions of dollars]

Impact aid for schools with military dependent students	
.....	+50.0
Impact aid for children with severe disabilities.....	+20.0
Impact aid for schools affected by basing decisions.....	
+15.0	
Total	
.....	+85.0

Anomalous Health Incidents

The budget request included \$2.2 billion in Operation and Maintenance, Defense-wide (OMDW) for SAG 4GTN Office of the Secretary of Defense, of which \$96.2 million is for the Office of the Under Secretary of Defense for Policy who leads the Department of Defense's Cross-Functional Team (CFT) for Anomalous Health Incidents (AHI) required by Section 910 of the National Defense Authorization Act for Fiscal Year 2022 (Public Law 117-81).

The committee strongly supports the mission of the CFT for AHI and, therefore, recommends an increase of \$10.0 million in OMDW SAG 4GTN to accelerate efforts by the CFT for AHI to address national security challenges posed by AHIs and ensure that individuals affected by AHIs receive timely and

comprehensive health care and treatment for symptoms consistent with an AHI.

Bien Hoa Dioxin Cleanup

The budget request included \$2.2 billion in Operation and Maintenance, Defense-wide (OMDW), for SAG 4GTN Office of the Secretary of Defense, of which no funds were requested for Bien Hoa dioxin cleanup in Vietnam.

The committee recommends an increase of \$15.0 million in OMDW for SAG 4GTN for Bien Hoa dioxin cleanup. The committee notes that elsewhere in this Act, the committee recommends a provision that would extend the authority of the Secretary of Defense to transfer up to \$15.0 million to the Secretary of State for Bien Hoa dioxin cleanup in Vietnam through fiscal year 2023.

Centers for Disease Control and Prevention Nation-wide human health assessment

The budget request included \$2.2 billion in Operation and Maintenance, Defense-wide (OMDW) for SAG 4GTN Office of the Secretary of Defense, of which no funds were proposed for the ongoing Centers for Disease Control and Prevention (CDC) Nation-wide human health assessment related to contaminated sources of drinking water from per- and poly-fluoroalkyl substances. The committee continues to support the ongoing human health assessment.

Accordingly, the committee recommends an increase of \$20.0 million in OMDW SAG 4GTN for the ongoing CDC assessment.

Defense Environmental International Cooperation Program

The budget request included \$2.2 billion in Operation and Maintenance, Defense-wide (OMDW) for SAG 4GTN Office of the Secretary of Defense. Of that funding, \$3.0 million was requested for the Defense Environmental International Cooperation (DEIC) program for engagement with international partners on defense-related environmental and operational energy engagement activities.

The committee believes the DEIC program is an important tool for engaging partners and building bilateral and multilateral relationships in support of the theater campaign plans of the geographic combatant commanders. The committee believes there are opportunities to expand outreach activities under this program, particularly in the Indo-Pacific region.

Therefore, the committee recommends an increase of \$7.0 million in OMDW SAG 4GTN for expansion of the DEIC program in the Indo-Pacific region.

Demonstration of component content management systems

The budget request included \$2.2 billion in Operation and Maintenance, Defense-wide (OMDW), for SAG 4GTN Office of the Secretary of Defense, of which no funds were requested for the demonstration of component content management systems (CCMS).

The committee recommends an increase of \$2.0 million in OMDW SAG 4GTN for the demonstration of CCMS. The committee notes that elsewhere in this Act, the committee recommends a provision that would require the Department of Defense Chief Information Office to carry out a demonstration of CCMS in fiscal year 2023.

Readiness and Environmental Protection Integration

The budget request included \$2.2 billion in Operation and Maintenance, Defense-wide (OMDW), for SAG 4GTN Office of the Secretary of Defense, of which \$169.7 million was for the Readiness and Environmental Protection Integration (REPI) program.

The committee has long recognized and appreciates the success that the REPI program has achieved in addressing encroachment and in maintaining and improving military installation resilience. However, significant additional funding is required to take full advantage of the ability of the REPI program to protect key installations, ranges, and airspace.

Accordingly, the committee recommends an increase of \$5.3 million in OMDW for SAG 4GTN for the REPI program and strongly encourages robust funding in future budget requests. Additionally, the military services should consider augmenting staffing levels in order to fully leverage the REPI program and enhance military readiness and military installation resilience.

In executing the increased funding, the committee directs the Secretary of Defense to consider projects that improve resiliency at test ranges and installations supporting military modernization efforts, to include projects that protect groundwater supplies and reduce development potential in the surrounding areas.

Secretary of Defense Strategic Competition Initiative

The budget request included \$2.2 billion in Operation and Maintenance, Defense-wide (OMDW) for SAG 4GTN Office of the Secretary of Defense.

The committee notes the establishment, by section 1332 of the National Defense Authorization Act for Fiscal Year 2022 (Public Law 117-81), of the Secretary of Defense Strategic Competition Initiative. The committee believes this initiative would benefit from the authorization of appropriated funds specifically for programs and activities under this initiative.

Accordingly, the committee recommends an increase in OMDW of \$20.0 million for SAG 4GTN for the Secretary of Defense Strategic Competition Initiative.

Special Education Inclusion Coordinators pilot program

The budget request included \$2.2 billion in Operation and Maintenance, Defense-wide (OMDW) for SAG 4GTN Office of the Secretary of Defense.

The committee is aware that there are challenges recruiting and retaining high quality childcare providers in Department of Defense Child Development Centers (CDCs), and these challenges are even greater when the CDC staffs lack expertise in special education coordination.

Accordingly, the committee recommends an increase of \$20.0 million in OMDW SAG 4GTN for the activities outlined for a pilot program elsewhere in this Act.

United States Telecommunications Training Institute support

The budget request included \$2.2 billion in Operation and Maintenance, Defense-wide (OMDW), for SAG 4GTN Office of the Secretary of Defense.

The committee recommends an increase of \$1.0 million in OMDW for SAG 4GTN to help provide technical training and information seminars to advance military readiness as part of the United States Telecommunications Training Institute objectives for supporting the training needs of information technology and regulatory professionals who design, regulate, and oversee the communications infrastructures of the developing world.

Increase for fiscal year 2022 legislative commissions

The budget request included no funding to support the operations of the five legislative commissions established in the National Defense Authorization Act for Fiscal Year 2022 (Public Law 117-81).

The committee believes these commissions are conducting important work and should continue to be supported.

The committee recommends an increase of \$17.7 million in Operation and Maintenance, Defense-wide (OMDW) Undistributed line for the commissions established in the National Defense Authorization Act for Fiscal Year 2022.

U.S. Special Operations Command operation and maintenance

The budget request included \$9.7 billion in Operation and Maintenance, Defense-wide (OMDW), for U.S. Special Operations Command (SOCOM).

The committee is concerned with continued contractor growth within the SOCOM enterprise and unjustified program increases, particularly in the maintenance and theater forces sub-activity groups. The committee believes additional resources should be better prioritized to address capability gaps, particularly those that ensure our special operations forces maintain superiority relative to long-term strategic competitors.

Therefore, the committee recommends an undistributed decrease of \$45.4 million in OMDW for SOCOM. The committee notes that these funds have been applied to unfunded requirements identified by the SOCOM Commander and other emergent requirements elsewhere in this Act.

Overseas Humanitarian, Disaster, and Civic Aid

The budget request included \$110.0 million in SAG 4GTD, Overseas Humanitarian, Disaster, and Civic Aid (OHDACA).

The committee notes that the OHDACA program provides low cost but highly effective activities that help partners build and enhance their disaster response capabilities, provide life-saving humanitarian assistance and mine action programs, and enable the foreign disaster relief initiative.

The committee recommends an increase of \$25.0 million in SAG 4GTD OHDACA for additional OHDACA programming.

Operation and maintenance unfunded requirements

In accordance with section 222a of title 10, United States Code, the service chiefs and the combatant commanders each submitted a list of unfunded requirements. The committee recommends an additional increase of \$3.7 billion for Operation and Maintenance items on these unfunded requirements lists.

ITEMS OF SPECIAL INTEREST

157th Air Operations Group Facility, Air National Guard

The committee recognizes that the 157th Air Operations Group (AOG), Missouri Air National Guard, Jefferson Barracks Air National Guard Base, responds to operational requirements within the Headquarters Pacific Air Forces (HQ PACAF) area of responsibility. The committee recognizes further that HQ PACAF may require significant support from the 157th AOG to ensure continuity of command and control of U.S. air forces in the Indo-Pacific region during a wartime contingency. The 157th AOG requires a single facility from which to provide such support, including by enabling efficient cooperation of all personnel within the Intelligence, Combat Operations, and Communications Squadrons and support staff. However, 157th AOG personnel currently function out of three separate facilities, which detracts from mission efficiencies and is inconsistent with AOG functionality. The committee recognizes that without consolidation into a single building, 157th AOG personnel will continue to train in a manner inconsistent with their wartime mission execution and the stove-piping of mission habits driven by separated facilities will continue to detract from combat readiness.

Accordingly, the committee encourages the Air Force to continue its current construction schedule of fiscal year 2024 to ensure the 157th AOG can adequately support HQ PACAF.

Adversary air training

All of the services need robust and representative adversary air threats to conduct effective training. As the service component lead for this program, the Air Force has invested in contracted adversary air services since 2015 in order to improve training without sacrificing the readiness level of U.S. aircraft or pilots. In 2019, the Air Force formalized this practice by awarding an indefinite delivery, indefinite quantity contract, with a maximum value of \$6.4 billion. To date, however, the Air Force has not obligated more than \$117.0 million per year for adversary air services.

The Air Force continues to stress the need for adversary air training, but it has not had a consistent and transparent strategy that outlines industry and organic requirements as well as funding over the future years defense program. Despite continuing pilot and aircraft maintenance personnel shortages, the Air Force plans to shift completely to organic sources for adversary air by fiscal year 2030, according to a Government Accountability Office (GAO) report published December 21, 2021, titled, "Military Air Support: DOD Has Increased Its Use of Contracts to Meet Training Requirements (GAO-22-104475)."

The committee is concerned that the Air Force's inconsistent strategy and underfunding will impact the overall readiness of the force and will have a negative impact on industry partners providing this service. Therefore, the committee directs the Secretary of the Air Force to provide a report to the congressional defense committees, not later than March 1, 2023, outlining the strategy and plan for the next 5 years on the adversary air program, including costs and benefits of the Air Force's approach. The report shall identify the planned composition of organic versus commercially-provided adversary air assets and flying hours in the plan.

Ambient temperature thermionic power generation

The committee remains interested in commercially developed technology to produce electrical power at ambient temperatures through thermionic processes. The committee notes that the Strategic Capabilities Office (SCO) has sustained the development of this technology, and that the Office of the Under Secretary of Defense for Acquisition and Sustainment (USD A&S) may make investments in scaling up this technology through the Defense Production Act (Public Law 81-774) if performance milestones are met. The near-term objective is to achieve reliable, stable, and long-life power generation at an energy density and form factor on par with lithium-ion batteries. The committee encourages the Director of SCO and the USD A&S to aggressively exploit this technology if critical performance and maturity thresholds are met.

Army energetics production facilities modernization

The committee recognizes the vital importance of Army Organic Industrial Base (OIB) ammunition facilities, including the Holston Army Ammunition Plant (HSAAP) and the Radford Army Ammunition Plant (RFAAP) as the primary producers of energetics for the Department of Defense. HSAAP is the sole manufacturer of Research Development Explosive (RDX) and High-Melt Explosive (HMX), the only North American manufacturer of the insensitive Munition Explosives IMX-101 and IMX-104, and the sole-source producer of triaminotrinitrobenzene. RFAAP is the primary source for the production of nitrocellulose (NC) solvent propellants, the sole source for NC solvent-less propellants, and produces nitroglycerin and sulfuric and nitric acid, which are critical propellant intermediates.

The committee recognizes that the Army has initiated a multi-decade Army Ammunition Plant (AAP) Modernization Plan but is concerned that the pace of implementation is slower than

desired to address critical production processes, capacity, and environmental challenges associated with operations at HSAAP and RFAAP. The committee notes that although the AAP modernization plan includes \$1.5 billion at HSAAP and \$3.9 billion at RFAAP, the plan identifies the requirement for an additional \$2.8 billion in currently unfunded critical construction projects. The committee believes the Department should prioritize funding these critically unique OIB facilities and accelerate the plan to modernize them. Accordingly, the committee directs the Secretary of the Army, not later than February 24, 2023, to provide a briefing to the congressional defense committees on the plan to address the full modernization requirement at HSAAP and RFAAP, including opportunities to accelerate planned projects and to address the currently unfunded critical construction projects.

Assessment of and engagement with commercial fusion energy industry

The committee is aware of developing commercial fusion energy technology that could present a significant technological advancement. The committee believes that there is a credible chance that one or more companies will demonstrate a viable path to commercialization of compact fusion reactor technology perhaps before the end of the decade. This research is well-funded by private investors, as well as driven by technological advances and agile and iterative development models.

The committee notes that successful commercial development of compact fusion reactors could profoundly impact the world economy, national security, and efforts to control climate change. The committee believes that the Department of Defense (DOD) could benefit from this technology.

Potential applications for the DOD include resilient clean energy for domestic and overseas bases, support facilities, and data centers; environmentally safe propulsion systems for ships; desalinization; and emergency support for civil authorities.

The committee directs the Under Secretary of Defense for Research and Engineering (USD(R&E)) to engage with the commercial fusion energy industry to assess the technological readiness level of clean fusion energy generation and the application of such technology to military missions. The committee directs the USD(R&E) to provide a briefing to the congressional defense committees, not later April 1, 2023, on the results of the assessment, along with plans and recommendations for future DOD engagement with this industry sector and for any research and development efforts in this area.

Autonomous robotic targets for small arms range modernization

The committee is aware of and supports continued expansion of autonomous robotic targets (ARTs) for small arms live fire training on the part of Marine Corps Training and Education Command. ARTs provide a significant and immediate increase in lethality for individual Marines, as well as enhanced small unit readiness by allowing for far more realistic training against an intelligent robotic adversary. The committee also notes a 2018 Marine Corps Warfighting Laboratory end user evaluation of over 5,000 shooters that concluded ARTs were a "vast improvement to training modality over existing systems and was value added in all training events/scenarios." The committee is also encouraged by the significant range modernization cost-savings that have been demonstrated at Camp Lejeune's Golf 36 and Golf 29 ranges, and believe that significant additional savings can be achieved by foregoing fixed target infrastructure in new range designs and instead utilizing ARTs to create dynamic, unpredictable training ranges with few modifications.

Accordingly, the committee directs the Commander, Marine Corps Installation Command, in consultation with the Commander, U.S. Marine Corps Training and Education Command, to provide a briefing to the committee, not later than March 1, 2023, that examines the potential savings and cost avoidance on current and future live training ranges identified in Appendix A of MCRP 8-10B.1 through the use of ARTs. The briefing shall delineate by live fire range potential cost-savings and environmental regulatory requirements that can be avoided by ARTs over planned physical range modifications to meet current and future training requirements. Further, the briefing shall examine ongoing range operation and maintenance cost expenses that can be avoided by removal of fixed and rail-based targeting systems.

Bison meat procurement

The committee is aware of the nutritional value of red meat protein, including bison meat, and the Department of Defense's objective to provide high-quality, cost-effective meals and ingredients as part of its food program. Therefore, the committee encourages the Department to consider domestic procurement of bison meat as part of a comprehensive red-meat protein approach for use in dining facilities, field provisioning, provisioning while underway, and in commissaries as part of a health and nutrition focused military food program.

Briefing on bidirectional charging

Bidirectional charging of alternatively-fueled vehicles (AFVs) is the ability for the grid to pull energy out of a vehicle's battery for use in other places on the grid, as well as provide energy to the battery to increase the charge. With the Department of Defense's plans to increase the number of AFVs on its installations, these vehicles could act as emergency energy sources if the proper upfront investments are made in vehicles, charging equipment, and microgrids that can use this feature.

Accordingly, the committee directs the Assistant Secretary of Defense for Energy, Installations, and Environment to study the benefits of bidirectional charging to improve installation resilience and provide a briefing to the committee on its findings and recommendations, not later than March 1, 2023. The briefing shall include any security and resilience benefits weighed alongside estimated costs of constructing or contracting for the use of sufficient infrastructure to handle bidirectional charging that is in excess of the costs associated with building out AFV infrastructure already planned or proposed.

Briefing on net-zero emissions and energy resiliency requirements for United States Indo-Pacific Command

The committee directs the Secretary of Defense to provide a classified briefing on the planning assumptions and requirements to meet net-zero emissions by 2050, as required by the Executive Order (EO) dated December 8, 2021, titled "Catalyzing Clean Energy Industries and Jobs Through Federal Sustainability" (EO 14057), while retaining power generation capability at strategic locations within the Indo-Pacific region.

The briefing shall assess three locations where the Department of Defense is promoting archipelagic defense of the United States and partner nations to promote sustainability and security, against the following criteria:

- (1) Power requirements, to include both average power needs and daily load profiles, including petroleum, oil and lubricant (POL) consumption rates;
- (2) Forecasted fuel consumption rates for the first 60 days that use the facility;
- (3) Primary and secondary electrical POL generating capacity for the facility;
- (4) A description of the logistics supporting (3);
- (5) Assessment of the impact to (4) within Operational Plans referenced in (2);
- (6) Current renewable power generating capability on the facility; and

(7) Details of investment plans, to include anticipated available non-fossil energy sources (wind, solar, small modular nuclear reactors) and advanced energy management to include advanced microgrids and energy storage systems, to meet the requirements set forth in (1) and (2) and net-zero emissions by 2050.

C-130J virtual reality engine maintenance training

The committee recognizes the importance of a fleet-wide distribution of virtual reality engine maintenance training assets for the Air Force C-130J fleet to ensure maintainer proficiency and facilitate fleet-wide transition to the C-130J model. Given that this training was initially fielded with squadrons in 2020 but was never completed fleet-wide, the committee is concerned a lack of training availability will hinder unit transitions from older C-130H models. Accordingly, the committee directs the Secretary of the Air Force to provide a briefing to the committee, not later than March 1, 2023, that outlines the Air Force's plan to achieve virtual reality engine maintenance training parity across units by ensuring that training assets are distributed to the remainder of the C-130J fleet.

Centers for Disease Control and Prevention Nation-wide human health assessment

The committee directs the Secretary of Defense to provide a briefing to the Committees on Armed Services of the Senate and the House of Representatives, not later than March 1, 2023, on the progress of and use of Department of Defense funds for the Centers for Disease Control and Prevention and the Agency for Toxic Substances and Disease Registry's assessment on the health implications of per- and polyfluoroalkyl substances contamination in drinking water, ground water and other sources of water.

Cold spray

The committee recognizes that repairs using cold spray techniques, such as High Pressure Advanced Rapid Deposition (HPARD) technology, for maintenance, repair, and overhaul is a proven technology for repairs performed by depots and deployed forces as evidenced by the military services' use of this technology for repairs to submarines, other vessels, aircraft, and ground vehicles. The committee notes these repairs have

resulted in significant cost savings as compared to procuring new parts or sourcing obsolescent parts.

Accordingly, the committee encourages procurement of HPARD technology systems for maintenance and repairs of the types of systems cited above and further exploration by the Department of Defense of applications for this cost saving technology in order to enable greater service life extension as well as leverage operations and maintenance cost savings for investments in research, development, test, evaluation, and procurement. Additionally, the committee encourages the Department to institutionalize annual funding for further development and procurement of HPARD technology in order to assure stabilized and predictable funding levels. Finally, the committee believes the Department should examine Department-wide integration of cold spray processes that have been developed by the military services.

Community consultation in habitat mitigation planning

The committee is aware of ongoing habitat considerations related to the flat tailed horned lizard, a species endemic to the Sonoran desert. The committee understands there is a need for additional habitat for this protected species, while also ensuring mission critical activities at Marine Corps Air Station Yuma are not disrupted. The committee encourages ongoing efforts by the Marine Corps to respect local county and city land-use growth plans, while also engaging in meaningful consultation with local jurisdictions prior to a final decision regarding flat tailed horned lizard habitat mitigation. Ultimately, effective collaboration between the Marine Corps, the state of Arizona, and local governments will be essential to these efforts.

Accordingly, the committee directs the Commandant of the Marine Corps to provide a briefing to the committee not later than March 1, 2023, on plans to address current habitat demands for the flat tailed horned lizard, in consultation with the community, while preserving the mission of Marine Corps Air Station Yuma. The briefing should also address the feasibility of DOD working with any external agency familiar with the flat tailed horned lizard's habitat displacement.

Comptroller General review of naval force generation

The committee notes that nearly a decade ago the Navy implemented a revised operational schedule, the Optimized Fleet Response Plan (OFRP), to address several problems that developed as a result of the Navy executing heavy operational demands.

These included increased ship deployment lengths, reduced or deferred maintenance, declining ship conditions across the fleet, and longer maintenance periods. The Navy's ability to generate sufficient, ready naval forces, currently through OFRP, is premised on adherence to more sustainable deployment, training, and maintenance schedules.

However, the Navy has faced persistent challenges in implementing OFRP since its inception. For example, the Navy has experienced ongoing difficulties with ship maintenance timeliness that have reduced ship availability for training and operations. In addition, the surface fleet continues to defer required maintenance, leading to a maintenance backlog of \$1.7 billion in 2021 and contributing to the Navy's proposal to decommission ships before the end of their useful life. Moreover, the Navy faces challenges in implementing training for the high-end fight, limiting deployment lengths, and maintaining ship readiness after deployment to provide for surge capacity.

Given these and other challenges, the committee remains concerned about the Navy's approach to force generation for its ships and submarines. Therefore, the committee directs the Comptroller General of the United States to assess the following:

(1) The extent to which the Navy's force generation assumptions and approaches for maintenance is realistic and consistent with ship class maintenance plans, shipyard capacity, actual maintenance execution and other relevant factors;

(2) The extent to which the Navy's current force generation approach incorporates sufficient training time for units to obtain required certifications and proficiencies to counter advanced adversaries;

(3) A comparison of the Navy's current force generation approach to those employed by the U.S. Coast Guard and allies and what best practices, if any, can be leveraged to enhance Navy force generation;

(4) The extent to which the Navy has considered options to revise its force generation model to enhance its efficiency and effectiveness at generating ready naval forces; and

(5) Any other related matters the Comptroller General considers appropriate.

The committee further directs the Comptroller General to provide a briefing to the committee not later than April 1, 2023, on the Comptroller General's preliminary findings and to present final results in a format and timeframe agreed to at the time of the briefing.

Department of Defense Outside the Continental United States Fuel Contracting and Sourcing

The committee acknowledges that the Defense Logistics Agency (DLA) purchases the majority of its bulk fuel contracts for deliveries to defense fuel support points (DFSPs) outside the continental United States (OCONUS) from foreign refineries to minimize transportation costs passed on to the services and Defense Agencies. The committee is concerned that this peacetime business environment and practice could face a spectrum of challenges in a threat environment in the event of a military conflict and is concerned that a number of U.S. tankers and crews available to support critical Department of Defense requirements may be limited.

Accordingly, the committee directs the Director of the DLA to provide a briefing to the committee, not later than March 1, 2023, on its OCONUS fuel resourcing strategy. The briefing shall include: (1) An analysis of the feasibility of transporting tanker-delivered bulk fuel to DFSPs on vessels of the United States that participate in the Voluntary Tanker Agreement Program carried out by the Maritime Administration pursuant to the authority contained in section 708 of the Defense Production Act of 1950 (50 U.S.C. 4558); (2) An estimate of the additional cost for the DLA to reform purchase and delivery contracts to reflect 25 percent, 50 percent, 75 percent, and 100 percent of tanker-delivered bulk fuel from refineries in the United States; (3) A market analysis of the supply challenges from tradeoffs in sourcing fuel contracts from refineries in the United States; and (4) An assessment of the vulnerabilities assumed in sourcing fuel contracts from refineries in foreign countries.

Depot maintenance for family of beyond line of sight terminals

The Air Force and Space Force are developing a wide range of fixed, ground, and air mobile terminals to receive waveforms from the Advanced Extremely High Frequency satellite and its follow-on system, the Evolved Strategic SATCOM satellite system. Aside from the manufacturer of the terminal, there appears to be no clear assessment of the number, types, or coordinated long-term maintenance of terminals, which all receive and process the waveform from the satellite's payload.

Therefore, the committee directs the Air Force and Space Force to provide a briefing to the congressional defense committees, not later than March 31, 2023, on a plan to assess across both services: (1) The expected number and types of terminals that are to be fielded over the next 10 years; (2) Their expected cost and a long-term coordinated plan to ensure

there is a centralized depot for maintenance; and (3) The requirements for working with the manufacturer to ensure a timely supply of future limited lifetime components within the existing supply base.

East Coast Joint All Domain Training Center feasibility report

The committee supports efforts by the Department of Defense to modernize training facilities for both special operations and conventional forces. The challenges identified in the National Defense Strategy require a more ready, joint, and technically proficient force. While the Department of Defense maintains access to significant training areas in the western half of the United States, unit demand for those areas are high and travel can be cost-prohibitive for East Coast-based units.

Therefore, the committee directs the Secretary of Defense, in coordination with the appropriate military and civilian officials within the Department, to provide the committee with a report, not later than December 1, 2022, on the feasibility and advisability of establishing a Joint All Domain Training Center in the eastern half of the United States. In conducting the required analysis, the Secretary shall consider the requirement for such a training center to support East Coast-based units and opportunities to acquire training areas at no or de minimis cost to the Department, which may include areas with distressed economies centered on the mineral extraction industry.

Enterprise management system for per- and polyfluoroalkyl substances and emerging contaminants

The committee understands that the Department of Defense is continuing to invest growing amounts into the investigation and cleanup of per- and polyfluoroalkyl substances (PFAS) at numerous military installations. The committee is aware that the Department does not currently use an enterprise management software system that is designed to track all financial and scientific data from its PFAS investigation and remediation efforts. The committee is aware of existing, commercial software solutions specifically designed for environmental remediation that could provide the Department with an advanced enterprise management system to better manage PFAS investigation and remediation. The committee encourages the Department to identify, evaluate, and use commercial-off-the-shelf software solutions to better manage its PFAS remediation efforts and notify the committee of its findings and progress not later than March 1, 2023.

Flame-Resistant Army Combat Uniforms

The committee has long supported the operational benefits provided by flame-resistant uniforms for all soldiers. Historically, the Flame-Resistant Army Combat Uniform (FRACU) was three to four times more expensive than the Army Combat Uniform (ACU), and the Army developed a policy to issue the uniforms to deploying soldiers through the Rapid Fielding Initiative. In recent years, the committee understands from industry that innovation has yielded new technologies that can reduce cost without sacrificing protection. For these reasons, the committee encourages the Army to consider making the FRACU an item of issue in the initial clothing bag.

Accordingly, the committee directs the Secretary of the Army to provide a briefing to the committee, not later than March 1, 2023, on the associated costs and feasibility study of replacing the ACU with the new FRACU. The briefing shall include: (1) A potential plan to establish a project stock to be funded over the future years defense program; (2) An outline for a potential health study on the use of flame resistant materials and emerging technology to determine the possibility of a cost-effective flame resistant solution for daily use by soldiers; (3) A review of existing criteria for determining in what circumstances combat uniforms of the Armed Forces and National Guard are required to be flame-resistant; (4) Potential costs and benefits of FRACUs on operational safety and force protection; and (5) The minimum level of annual procurement by the Defense Logistics Agency necessary to sustain the flame resistant textile industrial base to be prepared to respond to emerging needs of the Armed Forces and National Guard for current and future conflicts.

Graphite Production Requirements

The committee highlighted in the National Defense Authorization Act for Fiscal Year 2022 (Public Law 117-81) its concerns and focus on the Department of Defense's (DOD) ability to acquire strategic and critical materials from sources within the United States prior to purchasing from key allies. While it continues to believe in the importance of establishing a secure supply chain of graphite, the committee understands that to meet national security requirements the United States must have the ability to source raw graphite from allied countries for domestic processing and production of battery grade graphite.

Therefore, the committee directs the Secretary of Defense to provide a report to the congressional defense committees, not later than March 1, 2023, on its estimate of domestic graphite

production quantities needed to meet current and future DOD lithium batteries requirements. The report shall include, at a minimum, the following: (1) A review of current weapon systems operations and sustainment battery grade graphite requirements; (2) An assessment of future weapon system battery grade graphite requirements; (3) Current domestic graphite processing capability and potential shortfalls to meet DOD national security requirements; (4) Sources and availability of domestic processing capacity for battery-grade graphite; and (5) A roadmap recommending how the United States can meet DOD battery grade graphite processing requirements domestically.

Implementation Strategy for Naval Sustainment System-Supply

The committee continues to support advancements in supply chain visibility. Improved visibility is critical to mapping supply chains, identifying vulnerabilities, and developing alternative and more secure sources of strategic goods and services. Increased visibility also promotes readiness and optimizes decision making by improving end-to-end logistics process and data integration. Insights achieved through increased data integrity and expanded data analytics will drive necessary weapon system readiness improvements.

The committee commends the United States Naval Supply Systems Command for establishing a new end-to-end approach for managing naval supply chains and supporting mission performance. The Naval Sustainment System-Supply (NSS-Supply) seeks to implement a portfolio-based approach across the commercial and organic industrial base to increase predictability, capacity, and speed throughout the supply chain. The committee seeks to develop a better understanding of the NSS-Supply initiative as a readiness force multiplier and directs the Secretary of the Navy to provide a briefing to the congressional defense committees, not later than February 1, 2023, on the strategy to implement NSS-Supply. This strategy shall include the following elements: (1) An explanation of the milestones and outcomes to be achieved under NSS-Supply; (2) An explanation on how the potential gains brought by NSS-Supply will be institutionalized to improve the end-to-end supply chain business process; and (3) An explanation of the resources needed to support NSS-Supply and a discussion of the potential to accelerate outcomes and the resources to do so.

Infantry brigade combat team force design

The committee commends the Army's use of multiple acquisition reform initiatives that led to the production

contract award as part of the Infantry Squad Vehicle (ISV) competitive acquisition strategy, as well as notes the benefits of maximizing commercial-off-the-shelf capabilities to address operational requirements more readily, both in terms of cost and long-term sustainment to improve tactical mobility across Infantry Brigade Combat Teams (IBCT). The committee believes the Army should take necessary actions to more effectively resource optimal rates of ISV production. The committee also understands the Army is currently reviewing IBCT force structure and design to include several courses of action that would increase the motorization and tactical mobility capability of IBCTs. The committee supports these efforts and notes the ISV could be reconfigured through minimal engineering change proposals to better accommodate various mission equipment payload packages, such as counter-unmanned aerial systems and electronic warfare to improve IBCT capability in multi-domain operational environments. Therefore, the committee directs the Secretary of the Army to provide a briefing to the congressional defense committees, not later than January 15, 2023, in order to update the committee on the outcomes of the IBCT force structure review and study.

Joint Transportation Management System

The committee acknowledges and supports the efforts of U.S. Transportation Command (TRANSCOM) to consolidate the multiple Department of Defense transportation management systems to establish an interoperable, enterprise-grade solution that meets financial audit requirements. However, the committee is concerned that the strategy to proceed with these efforts lacks clarity despite the completion of a prototype system under the transportation management system other transaction authority (OTA). The committee is also concerned that appropriate funding is not being planned for over the future years defense program. Consequently, the committee directs the Secretary of Defense to provide a briefing, not later than January 1, 2023, to the congressional defense committees on TRANSCOM's strategy and timeline for and any identified barriers to full implementation of the Joint Transportation Management System. The briefing shall include funding assumptions and outline where shortfalls, if any, may exist.

Live virtual constructive training

The committee continues to monitor U.S. Air Force (USAF) pilot manning shortfalls and remains concerned with the limited progress made in addressing the issue, especially in increasing

the number of highly skilled fighter pilots. The committee notes that live, virtual, constructive (LVC) training systems will play an integral role in addressing the shortage and restoring readiness. However, current LVC systems lack the capability to display synthetic visual targets that are fundamental to aerial combat.

The committee previously supported airborne augmented reality (AAR) technology currently under evaluation by the Air Force Research Laboratory, Air Combat Command, and Air Education and Training Command under the Small Business Innovative Research program. The committee strongly encourages the further development of AAR systems and directs that all USAF and U.S. Navy LVC training systems include a capability to display realistic, all-aspect synthetic targets within visual range and beyond visual range. The committee also directs the Air Force to expand its ongoing AAR project to include integration on multi-ship, networked formations.

Finally, the committee supports Department of Defense (DOD) efforts to field a joint, interoperable, and secure LVC-capable training system architecture and infrastructure. To better understand overall DOD progress on these efforts, the committee directs the Secretary of Defense to provide a briefing to the congressional defense committees, not later than March 15, 2023, on: (1) Overall LVC training requirements; (2) How the Department will establish and maintain joint interoperable standards for LVC systems; (3) How the Department has established or will establish independent assessment criteria for potential LVC solutions that will meet training requirements for preparing for high end combat; (4) The DOD's current plans for fielding joint, interoperable LVC training environments; (5) An assessment of the extent to which each system being evaluated or fielded can provide LVC training environments; and (6) Budget estimates for each system.

Load reduction enhancements for dismounted operations

The committee has been very supportive of the Army's efforts to reduce soldier load and understands the negative impact weight can have on soldier performance. In addition to standard loads, many missions require soldiers to move several hundred pounds of equipment unrelated to their personal kit. Even with the distribution of material across a squad-sized element, each individual soldier may carry up to an additional hundred pounds of equipment. Numerous studies have shown the impact of soldier load on small unit effectiveness, warfighter survivability, and human performance on the battlefield. While the Army has highly capable vehicles to carry equipment for

dismounted operations, they are often too large to support individual troop movements in confined spaces.

The committee understands the U.S. Army Special Operations Command and U.S. Army Maneuver Center of Excellence have been successfully testing small ground vehicle systems that are maneuverable, lightweight, electric, and capable of operating across multiple formations and within confined spaces that are providing soldiers with significant weight reduction during dismounted operations. The committee strongly supports such efforts and looks forward to seeing progress made across the military services.

Manufacturing technologies and processes briefing

The committee believes that a vibrant defense industrial base, particularly as it relates to manufacturing, is essential to cultivating and protecting intellectual property, contributing to economic prosperity, and securing supply chains. The committee notes that advances in manufacturing techniques and processes have enabled some defense manufacturing capabilities to become more efficient with fewer negative externalities. The committee believes tracking advances in manufacturing and the associated benefits would provide valuable additional insights to Department of Defense leadership.

Therefore, the committee directs the Under Secretary of Defense for Acquisition and Sustainment to provide a briefing to the committee, not later than May 1, 2023, assessing the feasibility and advisability of including a taxonomy for categorizing recent and projected advances in manufacturing technology in the Department, which shall include energy efficiency as a category, as well as a process creating a baseline against which the Department can conduct regular analytical assessments to understand and measure progress in the area of manufacturing technology.

Modular Airborne Fire Fighting System basing criteria for C-130J

The committee notes that Air National Guard units flying the Modular Airborne Fire Fighting System (MAFFS) mission in the western United States are flying legacy C-130Hs in some of the hottest temperatures, highest elevations, and in the most challenging mountainous environments of any C-130 unit. Upgrading their C-130H fleet with C-130Js would have a substantial impact on readiness and firefighting capabilities, given every year the western U.S. has devastating wildfires and longer distances to travel than any other region in the continental United States. As such, the committee is concerned

that the Air Force is not considering MAFFS as part of its basing criteria for C-130J aircraft.

The committee was encouraged during a June 17, 2021, Senate Armed Services Committee hearing on the posture of the Air Force when the then-Acting Air Force Secretary and Air Force Chief of Staff committed that the Air Force would consider using MAFFS as part of its basing criteria moving forward. Specifically, in reference to making MAFFS part of the basing criteria for future rounds of C-130J recapitalization, the Chief of Staff stated, "You have my commitment to have that considered as one of the criteria as we look at forward basing decisions." The acting Secretary further noted that the point that MAFFS should be part of the criteria was "well taken" and committed that the Air Force would work "to see if there are ways we can give that some consideration going forward." The committee encourages the Air Force to follow through on this commitment by beginning the process of including the MAFFS mission as part of their basing criteria for the C-130J, and encourages the Air Force to make basing decisions based on location and the missions served in particular regions of the country.

Accordingly, the committee directs the Secretary of the Air Force to provide a briefing to the committee, not later than March 1, 2023, on how the Air Force defines the requirements for MAFFS capable planes and what criteria the Air Force would use in deciding on a base for additional aircraft equipped with MAFFS.

Multilateral exercises in the United States Africa Command area of responsibility

The committee notes the importance of Africa to the national security interests of the United States and supports efforts by the Department of Defense to strengthen relationships and enhance partner capabilities on the continent to address shared threats. The committee notes the testimony of the Commander, U.S. Africa Command (AFRICOM), on March 15, 2022, that "Russia and China both seek to convert soft and hard power investments into political influence, strategic access, and military advantage," and further testimony that "China's economic and diplomatic engagements allow it to buttress autocracies and change international norms in a patient effort to claim their second continent."

The committee believes that an important component of the Department of Defense's efforts to implement the National Defense Strategy and compete effectively with China, Russia, and other potential adversaries is by strengthening relationships and capabilities through AFRICOM's joint exercises with African

partners, to include corps-level exercises. The committee further believes that diversifying the hosts and locations of these exercises may help the Department expand partnerships in Africa, increase the capabilities of African partners, and further U.S. access and influence on the continent.

Therefore, the committee directs the Secretary of Defense, in consultation with the Commander, AFRICOM, to conduct a review of Department of Defense multilateral exercises in the AFRICOM area of responsibility and develop a plan to rotate the hosting arrangements and locations of such exercises. The review shall also identify the resourcing necessary for the effective implementation of the plan and any other considerations the Secretary deems appropriate. The committee directs the Secretary to submit the findings of the review and associated plan to the committee not later than December 1, 2022.

National Guard contribution to nuclear deterrence

The committee recognizes the important role National Guard units and installations play in supporting nuclear deterrence operations, as well as associated nuclear command, control, and communications and continuity of Government missions. This vital enabling support is provided by limited personnel operating out of select facilities for which equivalent substitutes are not available, and the committee is concerned that potential operational degradation could negatively impact current war plans.

Accordingly, the committee expects the Chief of the National Guard Bureau to strongly consider operational impacts as it prioritizes and allocates resources for sustainment, restoration, and maintenance.

Natural gas and propane generators

The committee notes that diesel generators remain in use as emergency power on a number of installations. The committee further notes that natural gas and propane generators may provide a viable alternative to diesel generators. The committee notes that natural gas and propane generators could be used in combination with renewable sources.

Therefore, the committee directs the Secretary of Defense to provide a briefing to the committee, not later than March 31, 2023, on installations where natural gas and propane generators could be fielded.

Navy converged enterprise resource planning system

The committee strongly supports Navy efforts to modernize its financial management and logistics systems using commercial enterprise resource planning (ERP) solutions and notes positive progress to meet this goal. The committee is also aware that the full migration of Navy commands from legacy systems is still in progress and a subsequent modernization to improve integration with cloud computing environments and leverage capabilities such as advanced data analytics and visualization is planned. Improving integration across the Navy Systems Commands is a critical enabler to better and more efficient stewardship of resources. To this end, the committee believes the Navy should avoid short notice, mid-year cuts that sacrifice forward progress in ERP deployment and integration, and instead begin developing a roadmap that supports modernization objectives while maximizing existing investments made to date on the program.

Per- and polyfluoroalkyl substances in groundwater briefing

The committee notes that communities in drought stricken regions face unique challenges when per- and polyfluoroalkyl substances (PFAS) are persistent in groundwater aquifers that serve as a primary or secondary source of drinking water. The committee directs the Secretary of Defense to provide a briefing to the Committees on Armed Services of the Senate and the House of Representatives, not later than December 1, 2022, on the status of remedial investigations related to the release of PFAS in the proximity of groundwater aquifers that serve as a primary or secondary source of drinking water in the United States, which are at or adjacent to military installations, facilities of the National Guard, or formerly used Defense sites, including communities within an aquifer designated as a sole source aquifer by the Administrator of the Environmental Protection Agency under section 1424(e) of the Safe Drinking Water Act (42 U.S.C. 300h-3(e)).

Personnel in the Office of Assistant Secretary of Defense for Sustainment in Environment, Safety, and Occupational Health

The Environment, Safety, and Occupational Health (ESOH) office is a critical component within the Department of Defense working on challenges ranging from per- and polyfluoroalkyl substances (PFAS) to the Military Housing Privatization Initiative. Therefore, it is important that the ESOH office have sufficient personnel in order to carry out its mandate. Accordingly, the committee directs the Under Secretary of Defense for Acquisition and Sustainment to provide a briefing to

the Committees on Armed Services of the Senate and the House of Representatives, not later than March 1, 2023, on the staffing and funding requirements for the ESOH office.

Preservation of the Force and Families

The committee strongly supports all aspects of Special Operation Command's (SOCOM) Preservation of the Force and Families (POTFF) Program and notes the critical role the program plays in enhancing the readiness of special operations forces (SOF) by building resiliency and optimizing performance. However, the committee notes that the December 16, 2021, report published by the Government Accountability Office (GAO), titled "Special Operations Forces: Additional Actions Needed to Effectively Manage the Preservation of the Force and Family Program" (GAO-22-104486), found that: (1) SOCOM guidance lacks clear definitions of key terms and responsibilities for key personnel for POTFF; (2) SOCOM provides minimal guidance on achieving an integrated and holistic system of care for POTFF; and (3) SOCOM lacks a clear vision for how it will fully leverage data for POTFF.

The committee believes that addressing these issues is important for ensuring SOF receive effective support under the POTFF program. The committee notes that the GAO report included several recommendations for addressing these issues, including through the modification of existing guidance or the establishment of new guidance governing the POTFF program. Therefore, the committee directs the Assistant Secretary of Defense for Special Operations and Low-Intensity Conflict and the Commander, SOCOM, to provide a briefing to the committee, not later than December 1, 2022, on ongoing or planned efforts to appropriately implement the recommendations contained in the GAO report.

Replacement of fluorinated aqueous film forming foams

Section 322 of the National Defense Authorization Act for Fiscal Year 2020 (Public law 116-92) prohibits the use of fluorinated aqueous film forming foams (AFFF) on any military installation after October 1, 2024. Additionally, section 331 of the William M. (Mac) Thornberry National Defense Authorization Act for Fiscal Year 2021 (Public law 116-283) directed the Secretary of Defense to survey relevant technologies to phase out the use of fluorinated AFFF.

The committee is aware of the risk assessment report published by the Assistant Secretary of the Air Force for Installations, Environment, and Energy (SAF/IE) on July 7, 2021,

titled "Assessment of Risks with Respect to Options for Replacing Fluorinated Aqueous Film Forming Foam (AFFF) Fire Suppression Systems in Department of Defense Facilities." The committee is also aware of the subsequent memorandum published by the SAF/IE on November 16, 2021, titled "Sunset Policy for Foam Fire Suppression Systems." The Department of the Air Force (DAF) indicated that Tier 1 facilities, where loss of aircraft or assets serviced inside would result in mission failure, shall program replacement of existing fluorinated AFFF systems with one of the following specialized systems: Ignitable Liquid Drainage Floor Assembly that is the primary option; a Low Expansion Foam System or High Expansion Foam System both of which will contain an approved Fluorine Free Foam. Tier 2 facilities would use an automatic water sprinkler system designed to provide life safety protection for occupants to evacuate the facility in the event of a fire.

The committee commends the DAF for taking the lead on the risk assessment and the publishing of the subsequent replacement guidance; however, the committee notes the burdensome methodology by which facilities are to be designated as Tier 1 and Tier 2. Based on the tremendous investment that the Congress has made in supplying the Department of Defense and services with necessary warfighting aviation assets, it would appear that the vast majority of facilities housing front-line, combat aviation assets should be designated as Tier 1. The committee directs that the Secretary of the Air Force provide a list of Tier 1 and Tier 2 facilities not later than March 1, 2023, as well as a report to the Committees on Armed Services of the Senate and the House of Representatives on the replacement schedule for phase out of fluorinated AFFF systems.

Swift water training for the National Guard

The committee appreciates that the National Guard has a long history in responding to natural disasters. Across the Nation, the Air National Guard and Army National Guard often are the first on the scene in assisting states dealing with wildfires, hurricanes, tornadoes, and floods. The committee understands that flooding is the most common natural disaster in the United States, occurring in 98 percent of the Nation's counties. In particular, quick-rising floods, and the swift waters that can result, are most often caused by heavy rains over a short period, and can happen anywhere. It is known that a significant portion of people who die in swift water incidents are first responders, like the National Guard, and most have never trained on an actual submerged vehicle. Additionally, around the world, emergency services personnel are training in

creeks and rivers, which carry bacteria and can reach dangerous temperatures in the winter.

The committee believes that a safe, realistic training environment is essential to protect flood rescue teams, like guardsmen. The committee understands that organizations such as Fayetteville Technical Community College in North Carolina, will maintain an indoor swift water rescue training facility at its Regional Fire and Rescue Training Center. The committee understands the facility will include an 88,000-gallon tank that will allow emergency personnel to train year-round for a wide variety of dangerous swift-water and floodwater rescue scenarios. The committee believes that such facilities can provide better additional training for real-life scenarios in a synthetic training environment.

Accordingly, the committee encourages the National Guard to utilize such facilities to ensure readiness for missions both at home and abroad.

Task Force 59 and operationalizing artificial intelligence at sea

The committee recognizes and commends Task Force 59 (TF-59), the Navy's first operational task force dedicated to integration of and experimentation with artificial intelligence and unmanned technologies. Since its establishment in September 2021, TF-59 has not only demonstrated a value to its parent command, the Navy's Fifth Fleet, but also to the Navy and the Department of Defense writ large. In a short period, TF-59 has been highlighted multiple times in congressional testimony and public statements by leaders across the Department of Defense, including the Secretary of the Navy, the Chief of Naval Operations, and the Commander, U.S. Central Command.

Therefore, the committee directs the Chief of Naval Operations to provide a briefing to the congressional defense committees, not later than December 1, 2022, on TF-59. This briefing shall include details of TF-59's projected manning, fiscal year 2023 budget profile, estimates for funding over the future years defense program, and operational history. The briefing shall also detail the potential benefits of establishing additional task forces with structures, missions, and practices similar to those of TF-59 at other regionally aligned fleets.

Training in extreme cold weather environment

The committee recognizes the need for the Joint Force to conduct Arctic-tailored training and exercises to ensure the

appropriate knowledge, skills, and abilities to successfully operate in the Arctic. The committee notes that in order to support the Department of Defense's Arctic Strategy there is need for enhanced training in extreme cold weather environments.

The committee directs the Secretary of Defense, in coordination with the appropriate military and civilian officials within the Department, to provide a briefing to the committee, not later than December 31, 2022, on existing joint all domain warfighting centers located in the United States that are able to support all-domain training exercises in an extreme cold weather environment.

U.S. Marine Corps unmanned aerial systems

The committee commends Marine Corps efforts to increase organic unmanned aerial systems (UAS) capabilities within the service. The committee encourages the Marine Corps to explore manpower resources available in the Marine Corps Reserve forces as a possible location to build additional force structure within the Marine Corps for this capability.

The committee directs the Secretary of the Navy to provide a briefing to the Committees on Armed Services of the Senate and the House of Representatives, not later than January 31, 2023, assessing the feasibility of establishing a Reserve UAS squadron. The briefing shall include:

- (1) Considerations for the potential requirement of a Marine Corps Reserve UAS squadron;
- (2) Potential force structure models for a reserve squadron;
- (3) Recruitment and retention plans for reserve component UAS pilots and maintainers; and
- (4) Optimal geographic locations for the basing of a Marine Corps Reserve UAS unit.

United States Africa Command combined maritime operations

The committee notes that U.S. Africa Command (AFRICOM) conducts activities under the African Maritime Law Enforcement Partnership (AMLEP) to build maritime security capacity of African security partners and improve management of their maritime environment through combined maritime law enforcement operations. The committee understands that Operation Junction Rain is the operational phase of AMLEP, and uses the United States Coast Guard (USCG) to enhance the maritime security and law enforcement capabilities of African partner nations, including through USCG Law Enforcement Detachments. The committee further understands that in recent years there has

been a lack of consensus within the Department of Defense (DOD) about the adequacy of existing authorities to support activities under Operation Junction Rain. The committee believes that building partnership capacity and security force assistance activities like AMLEP and Operation Junction Rain in the AFRICOM area of responsibility are important to supporting DOD objectives. Therefore, the committee directs the Secretary of Defense, not later than December 1, 2022, to provide a briefing to the committee on the adequacy of existing authorities to support the AMLEP program and Operation Junction Rain and to identify any gaps in such authorities.

United States Naval Station, Guantanamo Bay

The committee views United States Naval Station, Guantanamo Bay, as a strategically important platform for the Department of Defense (DOD) to maintain access and influence and provide forward-deployed capabilities in the western hemisphere. In order to effectively implement the National Defense Strategy and compete with the pacing threat of China, the importance of United States Naval Station, Guantanamo Bay, will increase given the significant expansion of Chinese presence and ambitions in the western hemisphere. The committee notes that the Commander, United States Southern Command (SOUTHCOM), testified on March 24, 2022, that, "the People's Republic of China, our long-term strategic competitor, continues its relentless march to expand economic, diplomatic, technological, informational, and military influence in Latin America and the Caribbean, and challenges U.S. influence in all these domains." In light of this reality, and given the requirements outlined in the National Defense Strategy for greater focus on competition with China, the committee believes there are significant opportunities to enhance United States military posture and capabilities at United States Naval Station, Guantanamo Bay.

Therefore, the committee directs the Secretary of Defense, in coordination with the Commander, SOUTHCOM, and the Secretaries of the military services, to conduct an assessment of the strategic importance of United States Naval Station, Guantanamo Bay, to fulfill DOD and broader national security requirements; to conduct an assessment of current DOD and related posture at United States Naval Station, Guantanamo Bay; and to identify opportunities to enhance DOD posture, infrastructure, and capabilities at the Naval Station. The assessment shall, at a minimum, identify opportunities to enhance capabilities and posture in the following areas:

- (1) Maritime;
- (2) Air;

(3) Intelligence, surveillance, and reconnaissance;
 (4) Ship repair and maintenance;
 (5) Security cooperation;
 (6) Servicemember support, to include medical services, and morale, welfare, and recreation services; and
 (7) Any other matters deemed relevant by the Secretary.

The Secretary shall provide an interim briefing to update the committee not later than October 15, 2022, on the initial findings of the assessment. The Secretary shall submit a final report to the committee not later than December 31, 2022, on the findings of the required assessment.

TITLE IV—MILITARY PERSONNEL AUTHORIZATIONS

SUBTITLE A—ACTIVE FORCES

End strengths for active forces (sec. 401)

The committee recommends a provision that would authorize Active-Duty end strengths for fiscal year 2023, as shown below:

Service	FY 2022 Authorized	FY 2023		Change from	
		Request	Recommendation	FY 2023 Request	FY 2022 Authorized
Army	485,000	473,000	473,000	0	-12,000
Navy	346,920	346,300	354,000	+7,700	+7,080
Marine Corps	178,500	177,000	177,000	0	-1,500
Air Force	329,220	323,400	325,344	+1,944	-3,876
Space Force	8,400	8,600	8,600	0	+200
DOD Total	1,348,040	1,328,300	1,377,944	+9,644	-10,096

The committee recognizes the current challenging recruiting environment. The committee also acknowledges that the military departments have to balance their needs for recruiting new personnel against the high standards they have set for service in the U.S. Armed Forces. With this in mind, the committee has taken a measured approach to the end strength authorization for active forces, ensuring that the services can both maintain high recruiting standards and meet the personnel requirements demanded by the National Military Strategy. This provision would authorize end strength levels within 3 percent of last year's end strength for Army, Navy, Air Force, Marines, and Space Force.

End strength level matters (sec. 402)

The committee recommends a provision that would repeal section 691 of title 10, United States Code, which establishes minimum end strength numbers for each of the military services.

This provision would also amend section 115 of title 10, United States Code, to authorize the Secretary of Defense and the secretaries of the military departments to vary Active-Duty end strengths set forth in this Act by up to 3 percent and 2 percent, respectively.

Additional authority to vary Space Force end strength (sec. 403)

The committee recommends a provision that would authorize the Secretary of the Air Force to vary U.S. Space Force end strength by a greater degree than is otherwise permitted for the Armed Forces in order to give the Secretary additional discretion to build and establish the U.S. Space Force.

SUBTITLE B—RESERVE FORCES

End strengths for Selected Reserve (sec. 411)

The committee recommends a provision that would authorize end strengths for Selected Reserve personnel for fiscal year 2023, as shown below:

Service	FY 2022 Authorized	FY 2023		Change from	
		Request	Recommendation	FY 2023 Request	FY 2022 Authorized
Army National Guard.....	336,000	336,000	336,000	0	0
Army Reserve.....	189,500	189,500	189,500	0	0
Navy Reserve.....	58,600	57,700	57,700	0	-900
Marine Corps Reserve.....	36,800	33,000	33,000	0	-3,800
Air National Guard.....	108,300	108,400	108,400	0	+100
Air Force Reserve.....	70,300	70,000	70,000	0	-300 Coast
Guard Reserve.....	7,000	7,000	7,000	0	0
DOD Total	806,500	801,600	801,600	0	-4,900

End strengths for reserves on active duty in support of the Reserves (sec. 412)

The committee recommends a provision that would authorize full-time support end strengths for fiscal year 2023, as shown below:

Service	FY 2022 Authorized	FY 2023		Change from	
		Request	Recommendation	FY 2023	FY 2022
Request	Authorized				

Army National Guard	30,845	30,845	30,845	0	0
Army Reserve	16,511	16,511	16,511	0	0
Navy Reserve	10,293	10,077	10,077	0	-216
Marine Corps Reserve	2,386	2,388	2,388	0	2
Air National Guard	25,333	26,630	25,333	-1,297	0
Air Force Reserve	6,003	6,286	6,003	-283	0
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DOD Total	91,371	92,737	91,157	-1,580	-214

The committee once again notes its concern that the Air Force has gone too far in requesting increases in Reserves on Active Duty in support of the Reserves at the expense of military technician positions. The Air Force has yet to provide a sufficient justification to the committee for these conversions. The committee remains concerned about the impact that such conversions would have on the readiness of the Air Force.

End strengths for military technicians (dual status) (sec. 413)

The committee recommends a provision that would authorize military technician (dual status) end strengths for fiscal year 2023, as shown below:

Service	FY 2022 Authorized	FY 2023		Change from	
		Request	Recommendation	FY 2023 Request	FY 2022 Authorized
Army National Guard.....	22,294	22,294	22,294	0	0
Army Reserve.....	6,492	6,492	6,492	0	0
Air National Guard.....	10,994	9,892	10,994	+1,109	0
Air Force Reserve.....	7,111	6,696	7,111	+415	0
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DOD Total	46,891	45,374	46,891	+1,517	0

The provision would also establish limits on the number of temporary technicians authorized to be employed within the end strengths set forth by this section to not more than 25 percent of the total authorized strength for each component.

The committee once again notes its concern that the Air Force has gone too far in requesting increases in Reserves on Active Duty in support of the Reserves at the expense of military technician positions. The Air Force has yet to provide a sufficient justification to the committee for these conversions. The committee remains concerned about the impact that such conversions would have on the readiness of the Air Force.

Finally, the provision would also prohibit under any circumstances the coercion of a military technician (dual status) by a State into accepting an offer of realignment or conversion to any other military status, including as a member of the Active, Guard, and Reserve program of a reserve component. The provision would further specify that if a technician declines to participate in such a realignment or conversion, no further action may be taken against the individual or the individual's position.

Maximum number of reserve personnel authorized to be on active duty for operational support (sec. 414)

The committee recommends a provision that would authorize end strengths for reserve personnel on Active Duty for operational support for fiscal year 2023, as shown below:

FY 2023

Change from

Service	FY 2022 Authorized	Request	Recommendation	FY 2023 Request	FY 2022 Authorized
Army National Guard.....	17,000	17,000	17,000	0	0
Army Reserve.....	13,000	13,000	13,000	0	0
Navy Reserve.....	6,200	6,200	6,200	0	0
Marine Corps Reserve.....	3,000	3,000	3,000	0	0
Air National Guard.....	16,000	16,000	16,000	0	0
Air Force Reserve.....	14,000	14,000	14,000	0	0
DOD Total	69,200	69,200	69,200	0	0

SUBTITLE C—AUTHORIZATION OF APPROPRIATIONS

Military personnel (sec. 421)

The committee recommends a provision that would authorize the appropriations for military personnel activities at the levels identified in section 4401 of division D of this Act.

BUDGET ITEMS

Military personnel funding changes

The amount authorized to be appropriated for military personnel programs includes the following changes from the budget request:

[Changes in millions of dollars]

Military personnel underexecution.....	-567.3	
Home leave demonstration program.....	10.0	
LSD-44, LSD-46, and LSD-48 restoral.....	58.9	
LSD-42, CG-69, T-ESD-1, T-ESD-2, LCS-11, -13, -15, -17, and -19 restoral.....		116.5
Navy end strength - improve fleet manning.....	924.0	
Air Force end strength - E10 AWACS and medical billets.....	234.0	
Increase in special and incentive pay.....	100.0	
Compensation inflation effects.....	5,000.0	
Total.....		5,876.1

The committee recommends an increase in the Military Personnel (MILPERS) appropriation to reflect the following changes: (1) Reduction of \$567.3 million to reflect the Government Accountability Office's most recent assessment of expected MILPERS under-execution for fiscal year 2023; (2) Addition of \$10.0 million in funding for the home leave demonstration program authorized elsewhere in this Act; (3) Addition of \$58.9 million for restoral of LSD-44, LSD-46, and LSD-48; (4) Addition of \$116.5 million for restoral of LSD-42, CG-69, T-ESD-1, T-ESD-2, LCS-11, -13, -15, -17, and -19; (4) Addition of \$924.0 million for additional Navy end strength to improve fleet manning; (5) Addition of \$234.0 million for additional Air Force end strength for the E-10 AWACS and restored medical billets; (6) Addition of \$100.0 million for special and incentive pay to aid recruiting and retention; and (7) Addition of \$5.0 billion to address effects of inflation.

TITLE V—MILITARY PERSONNEL POLICY

SUBTITLE A—OFFICER PERSONNEL POLICY

Consideration of adverse information (sec. 501)

The committee recommends a provision that would amend section 628a of title 10, United States Code, to clarify that Secretaries of the military departments have the discretion to furnish adverse information to the next regularly scheduled promotion board applicable to an officer to whom that section applies, in lieu of furnishing such information to a special selection review board under section 628a.

Extension of time limitation for grade retention while awaiting retirement (sec. 502)

The committee recommends a provision that would amend section 601(b)(5) of title 10, United States Code, to authorize general and flag officers in the grade of general or admiral, or lieutenant general or vice admiral, when redeploying after serving at least 1 year in a combat zone or overseas contingency operation, to retain their temporary grade for not more than 90 days while awaiting retirement.

Realignment in Navy distribution of flag officers serving in the grades of O-8 and O-9 (sec. 503)

The committee recommends a provision that would amend section 525(a)(3) of title 10, United States Code, to increase the number of Navy flag officers authorized to serve in the grade above the grade of rear admiral from 33 to 34, and to reduce the number of officers authorized to serve in the grade of rear admiral from 50 to 49.

Updating warrant officer selection and promotion authority (sec. 504)

The committee recommends a provision that would amend sections 573, 575, 576, 577, and 578 of title 10, United States Code, to authorize Secretaries of the military departments to exclude a warrant officer from consideration by a promotion board upon the request of the officer and to authorize promotion selection boards to recommend that warrant officers of particular merit be placed higher on the promotion list.

Authorized strengths for Space Force officers on active duty in grades of major, lieutenant colonel, and colonel (sec. 505)

The committee recommends a provision that would amend the table in section 523 of title 10, United States Code, to specify the total number of commissioned officers serving on Active Duty in the Space Force in the grades of major, lieutenant colonel, and colonel, respectively.

Repeal of requirement for Inspector General of the Department of Defense to conduct certain reviews (sec. 506)

The committee recommends a provision that would amend section 847(b) of the National Defense Authorization Act for Fiscal Year 2008 (Public Law 110-181) to repeal the requirement for the Department of Defense Inspector General (DODIG) to conduct periodic reviews to ensure that written opinions regarding the applicability of post-employment restrictions to activities that an official or former official may undertake on behalf of a contractor are provided and retained.

In conducting the required reviews, the DODIG has discovered that, while a DODIG review can assess whether written opinions are provided and retained, such a review cannot identify or quantify covered officials or former officials who failed to request a written post-Government employment ethics opinion. If a covered official does not request the opinion, there is no way for the DODIG to know what post-Government activities the official or former official is or will be engaged in. Accordingly, there is no way to know whether they are complying with post-Government employment requirements and nothing for the DOD IG to review or assess. Furthermore, the most recent DOD Office of the IG report on section 847, issued on December 20, 2019, found that section 847-covered officials and DOD ethics counselors generally complied with the section 847 requirements. The report contained no recommendations.

Modification of reports on Air Force personnel performing duties of a nuclear and missile operations officer (13N) (sec. 507)

The committee recommends a provision that would require, as part of the annual report on the 13N career field of the Air Force directed by section 506 of the National Defense Authorization Act for Fiscal Year 2022 (Public Law 117-81), a staffing plan for managing personnel within the 13N career field as the Air Force transitions operations to the Sentinel intercontinental ballistic missile weapon system.

The committee notes that at present there is not a clear plan for how the Air Force will manage the 13N career field through the transition from the Minuteman III weapon system to

the Sentinel, and consequently, the impacts of such a transition on existing and future 13N personnel are unknown.

SUBTITLE B--RESERVE COMPONENT MANAGEMENT

Authority to waive requirement that performance of Active Guard and Reserve duty at the request of a Governor may not interfere with certain duties (sec. 511)

The committee recommends a provision that would authorize the Secretaries of the Army and Air Force to allow up to 100 members of the National Guard to perform Active Guard and Reserve duty for purposes of performing training of the regular components of the Armed Forces as their primary duty through October 1, 2024. This provision would also require reporting from the Secretaries concerned.

Selected Reserve and Ready Reserve order to active duty to respond to a significant cyber incident (sec. 512)

The committee recommends a provision that would amend section 12304 of title 10, United States Code, to authorize the Secretary of Defense to order units and members of the Selected Reserve or Individual Ready Reserve, without the consent of the members, to Active Duty to respond to a significant cyber incident.

Backdating of effective date of rank for Reserve officers in the National Guard due to undue delays in Federal recognition (sec. 513)

The committee recommends a provision that would amend section 14308 of title 10, United States Code, to require the Secretaries of the Army and Air Force to adjust the effective date of Federal recognition for officers of the National Guard whose approved application for Federal recognition is delayed by more than 100 days from the date the National Guard Bureau determines the officer's Federal recognition application to be completely submitted for further review.

Independent study on Federal recognition process (sec. 514)

The committee recommends a provision that would require the Secretary of Defense to seek to enter into a contract with a federally funded research and development center to conduct a study on Federal recognition of National Guard commissioned

officer and warrant officer promotions. This provision would also require the Secretary to submit a report to the Committees on Armed Services of the Senate and the House of Representatives on the results of such study, and to continue making annual progress reports on Federal recognition of State National Guard promotions until the average processing time for such a personnel action is reduced to 90 days or fewer.

Continued National Guard support for FireGuard program (sec. 515)

The committee recommends a provision that would authorize the Secretary of Defense to continue to support the FireGuard program with National Guard personnel to collect and assess multi-source remote sensing information for interagency partnerships in the detection and monitoring of wildfires across the United States.

Inclusion of United States Naval Sea Cadet Corps among youth and charitable organizations authorized to receive assistance from the National Guard (sec. 516)

The committee recommends a provision that would amend section 508 of title 32, United States Code, to include the United States Naval Sea Cadet Corps among the list of organizations that are eligible to receive assistance from members and units of the National Guard.

SUBTITLE C—GENERAL SERVICE AUTHORITIES AND MILITARY RECORDS

Modernization of the Selective Service System (sec. 521)

The committee recommends a provision that would make numerous amendments to the Military Selective Service Act (50 U.S.C. 3801 et seq.) to expand registration requirements under that Act to all Americans and to restate the purpose and solemnity of selective service during times of war. The expansion of registration to all Americans would take effect 1 year after the date of the enactment of this Act.

Prohibition on induction under the Military Selective Service Act without express authorization (sec. 522)

The committee recommends a provision that would amend section 3809 of title 50, United States Code, to provide that no

person may be inducted into the Armed Forces unless the Congress first passes, and there is enacted, a law authorizing such induction into service.

Extension of temporary authority for targeted recruitment incentives (sec. 523)

The committee recommends a provision that would amend section 522 of the National Defense Authorization Act for Fiscal Year 2016 (Public Law 114-92) by extending until December 31, 2025, the authority for a Secretary of a military department to develop and provide new incentives to encourage individuals to join the military as an officer or enlisted servicemember.

Home leave demonstration program (sec. 524)

The committee recommends a provision that would authorize the Secretaries of the military departments to conduct a demonstration program to reimburse servicemembers stationed in Alaska for the cost of airfare to travel to the soldier's home-of-record. Under the pilot program, reimbursement would only be authorized for members based upon the written recommendation of a mental health provider and the approval of the member's commander.

Prohibition on considering State laws and regulations when determining individual duty assignments (sec. 525)

The committee recommends a provision that would prohibit the Secretary of Defense from using the agreement or disagreement of a member of the Armed Forces with the State laws and regulations applicable to any duty station when determining the duty assignment of the member.

Modification to limitations on discharge or release from Active Duty (sec. 526)

The committee recommends a provision that would amend section 1168 of title 10, United States Code, to clarify that members of the active and reserve components may not be discharged or released from Active Duty until the member's final pay, or a substantial part of that pay, is ready for delivery.

Sex-neutral high fitness standards for Army combat military occupational specialties (sec. 527)

The committee recommends a provision that would require the Secretary of the Army to establish sex-neutral fitness standards for Army combat military occupational specialties (MOSs) higher than such standards for non-combat MOSs not later than 180 days after the date of the enactment of this Act. The provision would require the Secretary to provide a briefing to the Committees on Armed Services of the Senate and the House of Representatives that describes the list of combat MOSs with higher fitness standards and the methodology used to include a certain MOS on the list.

SUBTITLE D—MILITARY JUSTICE AND OTHER LEGAL MATTERS

Briefing and report on resourcing required for implementation of military justice reform (sec. 541)

The committee recommends a provision that would require the Secretaries concerned to submit a report to the relevant congressional committees, not later than 1 year after the date of the enactment of this Act, on the resourcing necessary to implement the reforms contained in Subtitle D of Title V of the National Defense Authorization for Fiscal Year 2022 (Public Law 117-81). The amendment would also require the Secretaries concerned to provide semi-annual briefings to relevant congressional committees through December 31, 2024, on the Department of Defense's assessment of the resources necessary to implement the amendments made by that Subtitle.

Randomization of court-martial panels (sec. 542)

The committee recommends a provision that would amend Article 25 of the Uniform Code of Military Justice (UCMJ) (10 U.S.C. 825), to require that convening authorities detail members of the Armed Forces for service as panel members of courts-martial under regulations prescribed by the President for the randomized selection of qualified personnel for such panels, to the extent practicable. The provision would require the President to promulgate regulations implementing this provision not later than 2 years after the date of the enactment of this Act.

The committee notes that this provision would implement recommendation 1.7d of the Independent Review Commission on Sexual Assault in the Military to provide for randomized selection of court-martial panel members. The committee directs the Secretary of Defense to provide a briefing to the Committees

on Armed Services of the Senate and the House of Representatives, not later than July 1, 2023, on progress made in implanting this provision and any additional changes to the UCMJ that are necessary to effect this change.

Matters in connection with special trial counsel (sec. 543)

The committee recommends a provision that would modify Article 1 of the Uniform Code of Military Justice (10 U.S.C. 801) to include various additional punitive articles within the definition of "covered offense" subject to the authority of the Office of Special Trial Counsel. The provision would also require the President to amend the Manual for Courts-Martial to ensure that residual prosecutorial and judicial duties with respect to covered offenses are transferred to an appropriate entity. Finally, the provision would require comprehensive reporting from the Department of Defense regarding implementation of the reforms to the military justice system contained in subtitle D of title V of the National Defense Authorization Act for Fiscal Year 2022 (Public Law 117-81).

Jurisdiction of Courts of Criminal Appeals (sec. 544)

The committee recommends a provision that would amend Article 66 of the Uniform Code of Military Justice (UCMJ) (10 U.S.C. 866) to authorize judicial review of any conviction by court-martial. The provision would also amend the scope of review under Article 69 of the UCMJ (10 U.S.C. 869) by a Judge Advocate General.

Special trial counsel (sec. 545)

The committee recommends a provision that would amend Article 24a of the Uniform Code of Military Justice (10 U.S.C. 824a), concerning the provision of Special Trial Counsel, added by section 531 of the National Defense Authorization Act for Fiscal Year 2022 (Public Law 117-81), to make various technical corrections to that article.

Exclusion of officers serving as lead special trial counsel from limitations on authorized strengths for general and flag officers (sec. 546)

The committee recommends a provision that would exempt lead special trial counsel appointed pursuant to section 1044f of title 10, United States Code, from limitations on general and

flag officers contained in section 526a of title 10, United States Code, for 2 years from the date of enactment of this Act.

Special trial counsel of Department of the Air Force (sec. 547)

The committee recommends a provision that would amend section 1044f of title 10, United States Code, added by section 532 of the National Defense Authorization Act for Fiscal Year 2022 (Public Law 117-81), to clarify that within the Department of the Air Force a single dedicated office for the Department shall be created from which trial counsel of the Department of the Air Force will be supervised. The committee notes that the Air Force will continue to provide legal support to the Space Force, including execution of the requirements of Subtitle D, Title V of the National Defense Authorization Act for Fiscal Year 2022.

Restricted reporting option for Department of Defense civilian employees choosing to report experiencing adult sexual assault (sec. 548)

The committee recommends a provision that would add a new section 1599j to title 10, United States Code, to authorize civilian employees of the Department of Defense to make restricted reports of sexual assault for purposes of assisting the employee in obtaining information and access to authorized victim support services provided by the Department.

Improvements to Department of Defense tracking of and response to incidents of child abuse, adult crimes against children, and serious harmful behavior between children and youth involving military dependents on military installations (sec. 549)

The committee recommends a provision that would modify section 549B of the William M. (Mac) Thornberry National Defense Authorization Act for Fiscal Year 2021 (Public Law 116-283) to require the Secretary concerned to establish specific guidance for a separate multidisciplinary team tailored to respond to serious harmful behaviors between children and youth.

Primary prevention (sec. 550)

The committee recommends a provision that would amend sections 549A and 549B of the National Defense Authorization Act for Fiscal Year 2022 (Public Law 117-81) to require specific research topics regarding interpersonal and self-directed violence, to require the Primary Prevention Workforce to

incorporate findings and conclusions from the primary prevention research agenda, and require the Comptroller General of the United States to submit to the congressional defense committees a report comparing the sexual harassment and prevention training of the Department of Defense with similar programs at other Federal departments not later than 1 year after the date of the enactment of this Act.

Dissemination of civilian legal services information (sec. 551)

The committee recommends a provision that would require the Secretary of Defense, through the Sexual Assault Prevention and Response Office, to provide for the coordinated distribution and referral of information on the availability of resources provided by civilian legal services organizations to military-connected sexual assault victims.

SUBTITLE E—MEMBER EDUCATION, TRAINING, AND TRANSITION

Review of certain Special Operations personnel policies (sec. 561)

The committee recommends a provision that would require the Secretary of Defense, not later than 180 days after the date of the enactment of this Act, to require the military departments and U.S. Special Operations Command to complete a review and appropriately update Department guidance and processes, with respect to the authority of the Commander, U.S. Special Operations Command, to monitor the promotions of special operations forces and coordinate with the military departments regarding the assignment, retention, training, professional military education, and special and incentive pays of special operations forces.

Expanded eligibility to provide Junior Reserve Officers' Training Corps (JROTC) instruction (sec. 562)

The committee recommends a provision that would amend section 2031 of title 10, United States Code, to authorize the Secretary concerned to appoint certain recently separated servicemembers and participating members of the Selected Reserve to serve as Junior Reserve Officers' Training Corps instructors.

Pre-service education demonstration program (sec. 563)

The committee recommends a provision that would authorize the Secretary of each military department to establish and carry out a demonstration program to determine the advisability and feasibility of paying for all or a portion of the tuition for an individual who is enrolled in a technical or vocational degree, certificate, or certification program and who also signs an enlistment contract.

SUBTITLE F—MILITARY FAMILY READINESS AND DEPENDENTS' EDUCATION

Certain assistance to local educational agencies that benefit dependents of military and civilian personnel (sec. 571)

The committee recommends a provision that would authorize \$50.0 million in Operation and Maintenance, Defense-wide, for continuation of the Department of Defense (DOD) assistance program to local educational agencies impacted by enrollment of dependent children of military members and DOD civilian employees.

The provision would also authorize \$10.0 million in Operation and Maintenance, Defense-wide, for impact aid payments for children with disabilities as enacted by the Floyd D. Spence National Defense Authorization Act for Fiscal Year 2001 (Public Law 106-398), using the formula set forth in section 363 of the Floyd D. Spence National Defense Authorization Act for Fiscal Year 2001, for continuation of Department of Defense assistance to local educational agencies that benefit eligible dependents with severe disabilities. Furthermore, the provision would authorize the Secretary of Defense to use an additional \$10.0 million for payments to local educational agencies determined by the Secretary to have higher concentrations of military children with severe disabilities. Finally, the provision would require the Secretary to provide a briefing to the Committees on Armed Services of the Senate and the House of Representatives, not later than March 31, 2023, on the Department's evaluation of each local educational agency with higher concentrations of military children with severe disabilities and its subsequent determination of the amounts of impact aid each such agency should receive.

Assistance to local educational agencies that benefit dependents of members of the Armed Forces with enrollment changes due to base closures, force structure changes, or force relocations (sec. 572)

The committee recommends a provision that would require the Secretary of Defense to provide financial assistance to eligible local educational agencies benefiting military dependent students that may be affected by enrollment changes due to base closures, force structure changes, or force relocations. The provision would prescribe the criteria for a local educational agency's eligibility for assistance and provide a methodology for calculation of such assistance. A local educational agency could not receive more than \$15.0 million in assistance for any fiscal year. The authorization to provide assistance would sunset on September 30, 2028. Finally, the provision would require the Secretary to provide a briefing to the Committees on Armed Services of the Senate and the House of Representatives, not later than March 1, 2023, on the estimated cost to provide assistance to such agencies through the period ending on the sunset date.

Pilot program on hiring of special education inclusion coordinators for Department of Defense child development centers (sec. 573)

The committee recommends a provision that would require the Secretary of Defense, in coordination with the Secretaries of the military departments, to carry out a pilot program to hire special education inclusion coordinators at child development centers (CDCs) with a high population of military children enrolled in the Exceptional Family Member Program. The committee is aware that there are challenges recruiting and retaining high quality childcare providers in Department of Defense CDCs, and these challenges are even greater when the CDC staffs lack expertise in special education coordination. This provision would also require two briefings related to the pilot program.

Extension of and report on pilot program to expand eligibility for enrollment at domestic dependent elementary and secondary schools (sec. 574)

The committee recommends a provision that would amend section 589C(e) of the William M. (Mac) Thornberry National Defense Authorization Act for Fiscal Year 2021 (Public Law 116-283) to extend the duration of the pilot program that expands eligibility for enrollment at domestic dependent elementary and secondary schools until July 1, 2029. The provision would require the Secretary of Defense to submit a report to the Committees on Armed Services of the Senate and the House of

Representatives, not later than December 31, 2028, on the conduct of the pilot program.

SUBTITLE G—DECORATIONS AND AWARDS, MISCELLANEOUS REPORTS, AND OTHER MATTERS

Temporary exemption from end strength grade restrictions for the Space Force (sec. 581)

The committee recommends a provision that would temporarily exempt the U.S. Space Force from the end strength grade restrictions in sections 517 and 523 of title 10, United States Code, until January 1, 2024.

Report on officer personnel management and the development of the professional military ethic in the Space Force (sec. 582)

The committee recommends a provision that would require the Secretary of the Air Force to submit to the Committees on Armed Services of the Senate and the House of Representatives a report on proposed officer personnel management and the development of the professional military ethic in the Space Force not later than June 1, 2023.

Report on incidence of suicide by military job code in the Department of Defense (sec. 583)

The committee recommends a provision that would require the Secretary of Defense to conduct a review and submit a report to the Committees on Armed Services of the Senate and the House of Representatives on the rates of suicides in the Armed Forces, disaggregated by year, military job code, and component, during the time period beginning after September 11, 2001, and continuing to the present day, including the Department of Defense's most recent data responsive to this report. The Secretary concerned would be required to provide an interim briefing on the status of this review not later than June 1, 2023, and a final briefing to the Committees on Armed Services of the Senate and the House of Representatives not later than December 31, 2023.

Waiver of time limitations for Act of Valor during World War II (sec. 584)

The committee recommends a provision that would waive the time limitations specified in section 7274 of title 10, United

States Code, to authorize the award of the Medal of Honor to Master Sergeant Roderick W. Edmonds.

Authorization to award Medal of Honor to Sergeant Major David R. Halbruner for acts of valor in support of an unnamed operation in 2012 (sec. 585)

The committee recommends a provision that would waive the time limitation in section 7274 of title 10, United States Code, to authorize the President to award the Medal of Honor under section 7271 of such title to Sergeant Major David R. Halbruner for his valorous actions on September 11-12, 2012, in support of an unnamed operation.

Recognition of service of Lieutenant General Frank Maxwell Andrews (sec. 586)

The committee recommends a provision that would recognize and honor the service and sacrifice of Lieutenant General Frank Maxwell Andrews. The committee finds that Lieutenant General Andrews should be honored and recognized for: (1) His 37 years of loyal service to the U.S. Army and Army Air Corps; (2) His heroic leadership during World War I and World War II; and (3) His lasting legacy and selfless sacrifice on behalf of the United States.

Posthumous appointment of Ulysses S. Grant to grade of General of the Armies of the United States (sec. 587)

The committee recommends a provision that would authorize the posthumous appointment of Ulysses S. Grant to the grade of General of the Armies of the United States, equivalent to the rank and precedence held by General John J. Pershing.

Modification to notification on manning of afloat naval forces (sec. 588)

The committee recommends a provision that would modify an existing notification on manning of afloat naval forces to repeal the sunset and add a requirement related to the crewing of surface combatant vessels.

The committee is concerned that the Navy has not made appreciable progress in reducing manning gaps on naval vessels since the enactment of a congressional reporting requirement in fiscal year 2019. The committee notes that the Chief of Naval Personnel testified before the Committee on Armed Services of the House of Representatives on February 8, 2022, that the Navy

had 5,000 to 6,000 gapped at-sea billets at that time. The committee also notes the budget request would reduce Navy end strength by 10,300 sailors over the next 5 years.

The committee believes that additional focus and resourcing by Navy leadership is warranted to fully man afloat naval forces and it would be imprudent to discontinue reporting on such manning until gaps at-sea exceed the congressional reporting requirement thresholds.

Additionally, the committee is not aware of the Navy successfully implementing a multiple crews to single surface combatant vessel approach that has consistently met operational, manning, maintenance, and training objectives across multiple ships of a class.

The committee is concerned that the Navy's current practice of assigning multiple crews to a single surface combatant vessel (e.g., "blue-gold" or "3-2-1" crewing both classes of littoral combat ship) is exacerbating manning shortfalls across the surface combatant fleet with little operational benefit demonstrated to date.

The committee is also concerned that Navy plans to phase-in implementation of a "blue-gold" crewing approach on the FFG-62 class would similarly worsen at-sea manning gaps and impose more burdensome manning, maintenance, and training requirements, as compared to a single crewing construct, without a clear path to achieving the desired operational outcomes.

Prior to considering a future proposal to assign multiple crews for a single surface combatant, the committee will seek: (1) Evidence that the new FFG-62 class has proven a single crewing model is effective across multiple hulls and deployments; (2) Evidence that surface combatant vessel manning exceeds the congressional reporting requirements in section 597 of the National Defense Authorization Act for Fiscal Year 2020 (Public Law 116-92); (3) A comprehensive plan describing why a multiple crew construct is warranted, how it will be fully resourced, and the associated manning, maintenance, training, and operational elements of such plan; (4) The manning, maintenance, training, and operational impacts of such construct across the entire surface combatant vessel force; and (5) A comparison of the distributable inventory of officers, by designator, and sailors, by rate, available for at-sea assignment compared to the billets authorized and ship manpower document requirements for the entire surface combatant vessel force.

ITEMS OF SPECIAL INTEREST

Addressing the impact of inflation on military retail operations

The committee is aware that the current inflationary economy is putting a financial strain on servicemembers and their families. The committee therefore directs the Secretary of Defense to provide a briefing to the Committees on Armed Services of the Senate and the House of Representatives, not later than March 1, 2023, on the following issues: (1) The impact of rising prices on the revenue, profits, and operations of the military exchange and commissary systems; (2) Any measures that the exchange and commissary systems have undertaken to minimize the impact of inflation on servicemembers and their families, particularly for basic necessities; and (3) Any other relevant issues that the Secretary deems necessary.

Air National Guard tuition assistance pilot program briefing

The committee understands that tuition assistance consistently ranks among the top factors that potential recruits consider when deciding whether to join a military service. As the military in general and the reserve component in particular experience significant difficulties meeting recruiting goals, the committee encourages the Department of Defense to utilize all available tuition assistance authorities and funding.

The committee is aware that the Air National Guard conducted a pilot program to provide Federal tuition assistance to some members of the Air National Guard in the Selected Reserve. The Director of the Air National Guard shall provide a briefing to the Committees on Armed Services of the Senate and the House of Representatives, not later than March 31, 2023, on the results of this pilot program and any future plans to provide tuition assistance to members of the Air National Guard.

Assessment of Department of Defense Education Activity's policies and procedures on student misconduct

The committee remains concerned about the adequacy of the Department of Defense Education Activity's (DODEA) policies and procedures for addressing student misconduct. In the Senate report accompanying S. 2987 (S. Rept. 115-262) of the John S. McCain National Defense Authorization Act for Fiscal Year 2019, the committee directed the Department of Defense Inspector General (DOD IG) to conduct a comprehensive assessment of the Department of Defense and DODEA's policies and procedures regarding misconduct, including sexual misconduct, to help child victims of misconduct and to rehabilitate child offenders, including whether the Department took corrective actions to hold offenders accountable when appropriate. The DOD IG issued a report titled "Evaluation of the Department of Defense and

Department of Defense Education Activity Responses to Incidents of Serious Juvenile-on-Juvenile Misconduct on Military Installations" (Report No. DODIG-2020-127) on September 4, 2020. This report concluded that the DOD and DODEA lacked policies and procedures to respond to serious cases of sexual and non-sexual juvenile-on-juvenile misconduct. It also found discrepancies in investigative record keeping that made it difficult to discern whether serious juvenile-on-juvenile offenses were referred to appropriate officials and installation commanders and whether or not administrative or legal action was taken. The report made several recommendations to address these findings.

The committee directs the Secretary of Defense, not later than March 1, 2023, to provide a briefing to the Committees on Armed Services of the Senate and the House of Representatives on the implementation of the recommendations of the DOD IG.

Briefing on childcare solutions at Eglin Air Force Base

The committee directs the Secretary of the Air Force to provide a briefing to the Committees on Armed Services of the Senate and the House of Representatives, not later than March 1, 2023, on servicemember access to childcare at Eglin Air Force Base, Florida. The briefing shall include a comprehensive review of childcare issues linked to the 7th Special Forces Group (Airborne) and other military units whose members reside in the areas north of the main base. The briefing shall also include recommendations to ensure that members assigned to the 7th Special Forces Group (Airborne) and their families have access to a child development center.

Briefing on effectiveness of Department of Defense military spouse programs

The committee is aware that quality of life and family support are critical elements to successful recruiting and retention within the Armed Forces. The committee believes that effective spousal support programs are an essential element of this family support.

The committee therefore directs the Secretary of Defense to provide a briefing to the Committees on Armed Services of the Senate and the House of Representatives, not later than December 31, 2023, on the effectiveness of military spousal support programs. Such briefing shall include a thorough evaluation of the performance of the military spouse employment programs and initiatives of the Department of Defense (DOD). The briefing shall include but not be limited to: (1) A comprehensive list of existing DOD military spouse employment programs, to include

service-specific programs; (2) An assessment of the effectiveness of each program or initiative based upon existing performance metrics; (3) A cost assessment of each program or initiative per fiscal year for the last 5 years; (4) An identification of public-private partnerships that improve military spouse employment and hiring metrics of those programs; and (5) Any recommendations related to existing programs identified as a result of such evaluation.

Briefing on training on certain Department of Defense Instructions for members of the Armed Forces

The committee notes that section 556 of the William M. (Mac) Thornberry National Defense Authorization Act for Fiscal Year 2021 (Public Law 116-283) required the Secretary of Defense to implement training on relevant Federal statutes, Department of Defense (DOD) regulations, and military service regulations in accordance with DOD Instruction (DODI) 1300.17.

The committee directs the Secretary to provide a briefing to the Committees on Armed Services of the Senate and the House of Representatives, not later than December 1, 2022, on the Department's progress in meeting this requirement. The briefing shall include the following: (1) A copy of the educational materials for each military service; (2) A description, disaggregated by military service, of the number of trainings that have been conducted pursuant to DODI 1300.17; (3) The number of members of the Armed Forces who have received the training; and (4) The number of members of the Armed Forces who have yet to complete the training.

Carsharing feasibility and advisability

The committee is aware of the many environmental, logistical, and financial benefits of car sharing and ride sharing, particularly for people who do not own a vehicle and live in an isolated or remote area without easy access to transportation. Car sharing involves many individuals sharing a single vehicle. Car sharing can be structured as a rental business, whereby the shared vehicles are owned by a corporation as part of a fleet and available for hourly or daily rental, or as a peer-to-peer network, whereby an individual vehicle owner makes his or her personal vehicle available for others to rent when the owner is not using it. Ride sharing, on the other hand, provides a peer-to-peer platform for vehicle owners and operators to give rides to others for a fee without the owner relinquishing control of the vehicle.

In the committee report accompanying H.R. 4350 (H. Rept 117-118), the National Defense Authorization Act for Fiscal Year 2022, as passed by the House of Representatives, the Committee on Armed Services of the House of Representatives required the Department of Defense (DOD) to study the logistics and benefits of peer-to-peer car sharing. Although this provision required a thorough review of car sharing as an economic and social business model, it did not require the Department to assess the feasibility and advisability of a DOD-sponsored car sharing pilot program on military installations.

Given the known benefits of car sharing and ride sharing, the committee believes the Department of Defense should explore the possibility of encouraging such practices on military installations. The committee therefore directs the Secretary of Defense to provide a briefing to the Committees on Armed Services of the Senate and the House of Representatives, not later than April 1, 2023, on the feasibility and advisability of conducting a car sharing or ride sharing pilot program at military installations, including installations that are located in remote or isolated areas. This briefing shall include the following: (1) An analysis of the transportation-related challenges that servicemembers and their families face, particularly those stationed at remote or isolated installations; (2) An analysis of whether a car sharing or ride sharing pilot program on military installations could ease such transportation-related challenges; (3) Recommendations, if any, for the type or types of car sharing or ride sharing that would be most appropriate to pilot on a military installation, including a consideration of the foreseeable legal, ethical, and military cultural issues that could arise from car sharing or ride sharing at military installations, particularly for peer-to-peer models such as individual car or ride sharing; (4) Projected costs associated with such a pilot; and (5) Any other relevant matters that the Secretary deems appropriate.

Comptroller General report on Department of Defense childcare shortages

The committee understands that the childcare capacity challenges the Department of Defense (DOD) faces are also challenges in the civilian childcare sector. These challenges include significant provider shortages, especially for infant care. Military families, moving from installation to installation every few years, do not often have a family network nearby to help with childcare burdens, and so they especially rely on DOD childcare facilities to ensure the safe care of their children. The committee remains concerned about the

Department's ability to recruit and retain child development center (CDC) staff in a competitive hiring market.

Accordingly, the committee directs the Comptroller General of the United States to submit to the Committees on Armed Services of the Senate and the House of Representatives, not later than March 31, 2024, with an interim briefing not later than March 31, 2023, a report: (1) Evaluating the data and methods used by the Department of Defense to conduct market analyses, review wage settings, and calculate retention rates for childcare providers; (2) Reviewing the Department's initiatives aimed at improving staff retention; (3) Determining ongoing recruiting and retention challenges faced by CDCs, and what actions could alleviate those challenges; and (4) Including any other issues deemed relevant by the Comptroller General.

Comptroller General report on military transition programs

The committee supports the continued investments into the successful and safe transition of servicemembers from active, reserve, and National Guard service into civilian life. Each year, approximately 200,000 servicemembers transition from military service to civilian life. To help them successfully prepare for civilian life, the Department of Defense (DOD) is required, by law, to ensure that all eligible servicemembers participate in the Transition Assistance Program (TAP) to receive counseling, employment assistance, and information on Federal veteran benefits, among other supports. At the end of the TAP curriculum, servicemembers must demonstrate their readiness for civilian life by meeting a series of career readiness standards, such as completing an individual transition plan and a job application package. In addition, commanders or their designees must verify that the servicemember has met the standards. Servicemembers who do not meet one or more career readiness standards or need further assistance are referred to partner agencies, such as the Department of Labor and Department of Veterans Affairs (VA), for additional services. This referral process is known as the "warm handover." However, little is known about the effectiveness of this process.

The Government Accountability Office (GAO) has provided exceptional insight into the TAP processes through their previous reports: (1) "DOD Needs to Improve Performance Reporting and Monitoring for the Transition Assistance Program" (GAO-18-23), published November 8, 2017; (2) "DOD's Transition Assistance Program at Small or Remote Installations" (GAO-21-104608), published July 21, 2021; (3) "Performance Goals Could Strengthen Programs that Help Servicemembers Obtain Civilian Employment" (GAO-20-416), published July 9, 2020; and (4) "DOD

Has Taken Steps to Help Servicemembers Transfer Skills to Civilian Employment but Has Limited Evidence to Determine Program Effectiveness" (GAO-22-105261), published February 17, 2022.

Additionally, the GAO is currently undertaking three separate reports that address aspects of the veteran transition process: (1) Servicemember Transition Counseling; (2) Veterans High Tech Education; and (3) VA Solid Start. The committee looks forward to receiving these to help inform future oversight.

As testified by the Department of Defense Inspector General (DODIG), the Department did not consistently screen for suicide risk or arrange for uninterrupted mental health care for transitioning servicemembers, as required by Executive Order 13822 "Supporting Our Veterans During Their Transition From Uniformed Service to Civilian Life" and DOD policy. The DOD did not establish and implement oversight of mental health assessments and suicide risk screening processes for transitioning servicemembers. Additionally, DOD Instruction 6490.10 lacks a clear definition of a warm handoff provider, training tools, standardized documentation methods, and oversight procedures to ensure compliance. The DODIG made five separate recommendations to address suicide and mental health issues during veterans' transition.

In conjunction with the DODIG recommendations and subsequent review, the committee eagerly awaits the GAO's report examining transitioning servicemembers' access to continual mental health care, veterans' access to mental health care after transition, and veteran suicide ideations/attempts, as requested by the House Committee on Oversight and Reform's Subcommittee on National Security.

In order to further refine the TAP processes and ensure servicemembers are being effectively guided into civilian life, the committee directs the Comptroller General of the United States to conduct a comprehensive review of the Department's warm handover process for servicemembers transitioning to civilian life. At a minimum, the review shall assess the following:

(1) How does the DOD oversee the warm handover referral process to ensure servicemembers receive an in-person referral, as required;

(2) How is the DOD addressing the warm handover referral process for certain groups of servicemembers who may be facing specific, unique barriers to transition, such as those undergoing rapid separation or other than honorable discharge;

(3) What is known about the effectiveness of the warm handover process in successfully connecting servicemembers to additional resources provided by TAP partner agencies; and

(4) Any other matters deemed relevant by the Comptroller General.

The committee farther directs the Comptroller General to provide an interim briefing to the committee on the review, not later than March 31, 2023, and to issue a report to follow at a time agreed to subsequent to the briefing.

Comptroller General review of Department of Defense Education Activity compliance with title IX prohibitions on sex-based discrimination

The committee notes that the Department of Defense Education Activity (DODEA) is required to comply with Title IX of the Education Amendments of 1972 (also referred to as "title IX") under section 921 of title 20, United States Code, which specifies that, "the provisions of title IX...shall apply equally to education programs and activities administered by [DODEA]," as well as Executive Order 13160, dated June 27, 2000. To date, limited compliance reviews have been completed, but a full evaluation has not been conducted to determine whether the DODEA complies with these provisions. Therefore, the committee directs the Comptroller General of the United States to assess DOD's efforts to comply with these provisions. The assessment shall include an analysis of:

(1) The extent to which the DOD ensures its policies and practices comply with the prohibitions on sex-based discrimination established by title IX;

(2) The education and training provided to administrators, title IX coordinators, and staff related to title IX's prohibitions on sex-based discrimination;

(3) The availability and quality of supportive measures and services provided to complainants;

(4) The availability and quality of supportive measures and services provided to those accused of sex-based discrimination, to include due process protections;

(5) The complaint recordkeeping, processing, dismissal requirements, and resolutions related to title IX's prohibitions on sex-based discrimination,

(6) The policies and procedures intended to provide collaboration with military or civilian law enforcement agencies; and

(7) Any other matters the Comptroller General deems necessary.

Furthermore, the committee directs the Comptroller General to provide a briefing to the Committees on Armed Services of the Senate and the House of Representatives, not later than July 31, 2023, on its preliminary findings. The format and timeframe for

a final report shall be determined by agreement at the time of the briefing.

Comptroller General review of standardized testing practices in Department of Defense Education Activity schools

The committee directs the Comptroller General of the United States to conduct an assessment of standardized testing practices and requirements across DODEA schools. This assessment shall include the following: (1) A thorough review of standardized tests offered or mandated in DODEA schools by grade level; (2) An analysis of the number of testing days versus instructional days at DODEA schools by grade level compared to other public school systems; (3) An exploration of possible redundancy in DODEA standardized testing; and (4) Any other issues related to standardized testing in DODEA schools that the Comptroller General deems relevant.

The Comptroller General shall provide a report to the Committees on Armed Services of the Senate and the House of Representatives on the results of this assessment and any related recommendations not later than June 1, 2023.

Department of Defense Inspector General assessment of anti-harassment programs at senior service colleges

The committee is concerned about the efficacy and effectiveness of anti-harassment programs in academic environments of the Department of Defense's senior service colleges, including processes for investigating and adjudicating allegations of harassment levied against instructors and administrators at the senior service colleges. Academic environments present unique challenges for ensuring harassment-free experiences for students in civilian institutions, as well as in the military.

The committee directs the Department of Defense Inspector General (DODIG) to conduct a comprehensive assessment of anti-harassment programs and policies at the senior service colleges, including processes for addressing harassment claims against instructors, processes for protecting students and others who make claims of harassment, processes for addressing allegations made against or by inter-service servicemembers, and processes for assessing the adequacy of response by senior service college administration relative to those accused of harassment and the protection of those making such allegations. The committee directs the DODIG to provide a briefing to the Committees on Armed Services of the Senate and the House of Representatives on the findings of this assessment upon completion.

Economic analysis of space component on Space Force labor market

The Space Force proposal for a combined full-time/part-time "space component" would have widespread ramifications on the Space Force labor market. These ramifications, whether intentional or otherwise, would likely diverge significantly from the well-established and thoroughly studied traditional military personnel and manpower construct. Since this divergence necessarily introduces a new level of uncertainty to the Space Force's ability to meet its overall mission requirements, the committee believes a thorough examination of the space component proposal must be conducted from the perspective of labor economics.

Therefore, the committee directs the Assistant Secretary of the Air Force for Manpower and Reserve Affairs, in conjunction with the Chief of Space Operations, to utilize the Air Force's Office of Labor and Economic Analysis (OLEA) to review plans for the space component and provide a report to the Committees on Armed Services of the Senate and the House of Representatives, not later than June 1, 2023. The report shall include the Assistant Secretary's findings and an unedited copy of the original OLEA review of the following items:

(1) A thorough policy analysis of Space Force labor requirements and space component plans, including:

(a) a detailed examination of the policy framework for the reserve component, consistent with existing authorities, to provide access to a skilled and technical workforce;

(b) an assessment of any significant statutory or policy impediments caused by existing authorities to accessing the type of workforce the Space Force requires;

(c) supporting analysis to include trade-offs, costs, and projected uptake associated with the various elements of the space component; and

(d) any other matters the Assistant Secretary considers relevant;

(2) An assessment of the planned Space Force labor market, including:

(a) a current and 10-year forecast for Space Force personnel according to status, under existing framework and under the space component plan;

(b) an assessment of the current usage and target usage of programs to access skilled and technical workforce required by the Space Force

(c) an explanation of the utility and feasibility of allowing Space Force officers to repeatedly and

seamlessly transition between full-time and part-time status throughout the course of their military careers;

(d) an explanation of the utility and feasibility of allowing Space Force officers to receive constructive credit during transitions between Active Duty and reserve active-status; and

(e) an assessment of the applicable workforce's willingness to participate in the various programs envisioned by the Space Force. This assessment shall include:

(i) a crosswalk between Space Force occupational and competency requirements and civilian market job equivalencies;

(ii) a comparison of compensation (wages and benefits) in the civilian workforce and a correspondence to equivalent positions and grades in the Space Force;

(iii) a review of private sector labor market employment terms and conditions and their success in attracting and retaining talent in fields and occupations identified in the Space Force crosswalk; and

(iiii) an assessment of potential mechanisms to increase participation of skilled and technical workforce.

Electronic sports and Navy recruiting

The committee recognizes the Navy's efforts to expand its recruiting outreach to include a presence on electronic sports (eSports) streaming platforms. These streaming platforms may be more effective than traditional broadcast media at reaching young Americans and informing them of the benefits of military service. The committee also commends the Navy's electronic sports team, Goats & Glory, for maximizing opportunities to reach a diverse population of potential Navy recruits. Therefore, the committee directs the Secretary of the Navy to provide a briefing to the Committees on Armed Services of the Senate and the House of Representatives, not later than March 1, 2023, detailing the data and any relevant analyses that demonstrate the value of eSports streaming outreach in relation to military recruiting.

Ellsworth Air Force Base schools

The committee is aware of the Department of the Air Force's changing projections for the number and composition of school-aged children associated with the assumption of the B-21 mission at Ellsworth Air Force Base (AFB), to include different

projections offered by various Air Force commands and activities. The lack of reliable, phased projections of the number of school-aged children, when combined with existing school capacity limitations, requires Secretary-level involvement to inform community planning and resourcing efforts.

Accordingly, the committee directs the Secretary of the Air Force to provide a briefing to the congressional defense committees, not later than December 1, 2022, which shall include: (1) The total number of children projected at Ellsworth AFB; and (2) A breakdown by school grade level of the number of students per academic year beginning with the arrival of the first B-21 activities and ending with the arrival of the final B-21 activities, as understood on the date of the brief. Furthermore, the Air Force will provide an analysis of whether Department of Defense Education Agency schools should be considered and, if not, what its plan is to assist the community with the planning for, and resourcing of, the construction of schools to support the influx of dependent children associated with the assumption of the B-21 mission. Furthermore, the briefing shall provide a consideration of providing funding from the Impact Aid for Large Scale Rebasing Program and other relevant Department of Defense and Department of Education programs to expand the capacity of the local educational activity. The Air Force shall provide the methodology used to make its projections.

Exceptional Family Member School Liaison Program

The committee recognizes the critical importance of ensuring that military families with special needs receive educational services and support within the timeline mandated by the Individuals with Disabilities Education Act (Public Law 101-476) after a military move. The committee supports the Department of Defense's (DOD) policy of linking military families with special needs to Exceptional Military Family Member (EFMP) school liaisons.

The committee also notes that the Government Accountability Office (GAO) has published two recent reports on the role of school liaisons in supporting EFMP families: "DOD Programs and Services for Military Dependent Students with Disabilities," (GAO-22-105015), published May 19, 2022, and "U.S. Military Families Generally Have the Same Schooling Options as Other Families and Consider Multiple Factors when Selecting Schools," (GAO-21-80), published February 4, 2021. These reports highlighted the success that school liaisons are having in supporting EFMP families.

The GAO reports also highlighted some opportunities for improvement in the school liaison program. Namely, the reports indicated that military families faced challenges in finding school liaisons and had mixed experiences in using school liaisons. Furthermore, the GAO reports indicated that the DOD does not have a Department-wide job description for school liaisons.

Therefore, the committee directs the Secretary of Defense to provide a briefing to the Committees on Armed Services of the Senate and the House of Representatives, not later than March 1, 2023, on its efforts to improve EFMP family access to school liaisons and other DOD special education supports and services. This report shall cover the following issues: (1) A description of the communications plan that the DOD has implemented to improve awareness of and access to school liaisons; (2) An assessment of the effectiveness of this communications plan; (3) A description of the data that the DOD collects to measure the effectiveness of the school liaison program; (4) An assessment of whether the Department should adopt a DOD-wide job description for a school liaison; and (5) Any other matters or recommendations relevant to this topic that the Secretary deems appropriate.

Extremism in the military

Following the Capitol attack on January 6, 2021, the Biden Administration and Department of Defense (DOD) focused significant attention and resources on perceived extremism within the ranks of the military. On February 5, 2021, Secretary of Defense Lloyd Austin released a memorandum mandating a service-wide stand-down within 60 days for discussion and education on extremism in the military. On April 9, 2021, Secretary Austin established the Countering Extremist Activity Working Group (CEAWG) to oversee the implementation of the immediate actions and formation of additional and long-term recommendations to address perceived extremism in the ranks. From April to December of 2021, the DOD CEAWG compiled findings from both internal and external subject matter experts and found that, "[t]he available data generally shows that cases of prohibited extremist activity among service members was rare," at just 100 cases. In a force of 2.1 million active and reserve personnel, this is a case rate of .005 percent, one servicemember out of every 21,000.

On January 2, 2022, the Chairman of the Joint Chiefs of Staff wrote to the committee and detailed the amount of hours and dollars spent on fighting this alleged extremism in the ranks. Chairman Milley's letter detailed that there were

5,359,000 hours spent on the extremism stand down, or roughly 2 hours per servicemember in a total force of 2.1 million, including reservists. It detailed that over \$500,000 was spent on the stand down, not including the cost of compiling the report provided by the CEAWG.

The committee believes that the vast majority of servicemembers serve with honor and distinction, and that the narrative surrounding systemic extremism in the military besmirches the men and women in uniform. The committee believes that when extremist activity does in fact occur that it must be dealt with swiftly and appropriately; however, the case incident rate does not warrant a Department-wide effort on the issue. In light of the findings by Secretary Austin's CEAWG, the committee believes that spending additional time and resources to combat exceptionally rare instances of extremism in the military is an inappropriate use of taxpayer funds, and should be discontinued by the Department of Defense immediately.

Feasibility of remotely piloted aircraft crew mission readiness program

The committee continues to be concerned about the health and welfare of remotely piloted aircraft crews who are actively supporting combat operations from domestic locations and their access to a program to optimize and sustain mission readiness, longevity, and performance through integrated and holistic programs designed to strengthen physical, psychological, cognitive, social and family, and spiritual elements of the operator. Considering most of the crews have largely been deployed in place for the last 10 years, the committee believes the Air Force should have addressed the issues of work-life balance in this community, similar to a deploy-to dwell tempo that is applicable for deployed forces. Also of concern is the characterization of the combat operations performed by these crews and the consideration of having been in combat for the purposes of recognition and access to combat-related benefits. Therefore, the committee directs the Secretary of the Air Force to submit a report to the Committees on Armed Services of the Senate and the House of Representatives, not later than March 1, 2023, that:

(1) Determines the health and welfare needs of the remotely piloted aircraft crews engaged in direct support of combat operations;

(2) Works collaboratively with U.S. Special Operations Command (SOCOM) to understand the intent of the Preservation of the Force and Family program

and lessons learned from implementation in SOCOM to determine comparable services and facilities for the remotely piloted aircraft aircrew community; and

(3) Contains an assessment of the need and feasibility of such a program and the cost of establishment.

Legislative fellowships

The Department of Defense (DOD) legislative fellowship program provides select servicemembers and civilian employees first-hand experience with the workings of the Congress and, through the acquisition of additional skills and knowledge, provides the DOD with an understanding of how congressional actions affect the DOD's budget, roles and missions, force structure, programs, military projects, and quality of life. DOD Instruction 1322.06, published October 12, 2016, titled "Fellowships, Legislative Fellowships, Internships, Scholarships, Training-With-Industry (TWI), and Grants Provided to DoD or DoD Personnel for Education and Training," requires assignment of servicemembers and civilians to an immediate utilization tour upon completion of the legislative fellowship program. The Instruction authorizes delay or waiver of this requirement only as needed to meet current mission needs. The committee strongly endorses this program.

The committee is concerned that some legislative fellows may not have been assigned to the required utilization tours upon completion of the legislative fellowship program. Accordingly, the committee directs the Secretary of Defense to submit an annual report, not later than March 1 of each year through calendar year 2028, on the number of servicemembers and civilians from the most recent legislative fellowship cycle who: (1) Are assigned to utilization tours; (2) Are delayed from the required immediate utilization tour; (3) Receive a waiver of the required utilization tour; and (4) Leave military service for a congressional staff position prior to completion of the utilization tour. The report shall include the reasons for delayed utilization tours and a detailed explanation for each waiver of completion of the required utilization tour. The report shall not include personally identifiable information regarding the servicemembers and civilians addressed in the report.

Military apprenticeships

The committee encourages the Department of Defense to use the Registered Apprenticeship Program (RAP) as part of the

Transition Assistance Program (TAP). The TAP provides information, tools, and training to help servicemembers and their spouses get ready to move successfully from military to civilian life. The RAP is a proven model of apprenticeship that has been validated by the U.S. Department of Labor or a State Apprenticeship Agency. RAPs enable and energize more employers to participate and provide them access to larger talent pools that have been trained for entry-level to management positions, thereby meeting industry demands and reducing unemployment rates across the country.

Military Childcare in Your Neighborhood PLUS expansion

The committee understands that Department of Defense (DOD) Child and Youth Programs are known to be of exceptional quality, meeting the most rigorous accreditation standards while providing thoughtful programming at a reasonable cost. Due to shortages of providers, the DOD and military services have been thinking creatively about innovative ways to provide much-needed childcare to servicemembers and their families. Beginning in 2019, the Military Childcare in Your Neighborhood-PLUS Program expanded access for military families to high-quality community-based providers to increase capacity in high-demand areas. The program utilizes the quality rating and improvement systems (QRIS) in states to ensure that the children of servicemembers are able to receive high-caliber care.

The committee remains committed to ensuring that servicemembers and their families are able to receive excellent childcare in a timely fashion to meet their needs, and therefore directs the Secretary of Defense to provide a briefing to the Committees on Armed Services of the Senate and the House of Representatives, not later than March 1, 2023, regarding the Military Childcare in Your Neighborhood-PLUS Program, or any successor programs, to understand how the DOD is using the QRIS in select states to expand the pool of eligible childcare providers for military families to use. The briefing shall include: (1) Information on the safety records of facilities covered by the program; (2) Data on the scope of the program in terms of additional childcare capacity; (3) Details regarding plans to implement the program in additional states; and (4) A description of any challenges in working with the states in implementation.

National Guard operational tempo

The committee is aware of the high operational tempo that the Air and Army National Guard have been operating under over

the past several years. The committee commends the National Guard for its critical role in assisting with COVID-19 relief efforts and other domestic support operations. The committee is concerned, however, that the high operational demands on National Guard members from both Federal and State activations may have taken a toll on recruiting, retention, and the readiness of National Guard members.

The committee therefore directs the Under Secretary of Defense for Personnel and Readiness and the Director of the National Guard Bureau to provide a briefing to the Committees on Armed Services of the Senate and the House of Representatives, not later than February 1, 2023, on the following topics: (1) Whether State duty interferes with or negatively impacts recruiting, retention, or quality of life for members of the National Guard; (2) Whether State-specific activations or mobilizations present a barrier to National Guard members earning sufficient credit to earn a qualifying year for retirement; and (3) any policy recommendations to ensure the readiness, fitness, and availability of National Guardsmen to contribute to the national defense.

Performance evaluations for Professional Military Education

The committee notes the importance of Professional Military Education (PME) to develop the professional knowledge of servicemembers, inculcate the habits of mind essential to the profession, and create an arena for intellectual competition to advance new ideas and concepts. The committee is also concerned that PME has become stagnant, focusing in some cases on churning out graduates rather than inculcating a mindset focused on lethality and ingenuity honed through peer competition. Deterring and defeating adversaries including the People's Republic of China and Russia will require a more rigorous and competitive PME enterprise.

Therefore, not later than April 1, 2023, the committee directs the Secretary of Defense to submit to the Committees on Armed Services of the Senate and the House of Representatives a report describing how the performance of military officers at PME programs within the Department of Defense is evaluated.

The report required shall include the following elements:

(1) A survey of the current methods the military services use to evaluate the performance of military members attending PME programs, including a comparison of how and why such evaluations are different from ordinary duty performance evaluations;

(2) An analysis of whether current PME performance evaluations accurately assess officer capabilities, including

whether such evaluations are metrics-based and related to the knowledge, skills, and attributes required for officers at their respective career stages;

(3) An assessment of how military officer PME performance is integrated with talent management at each of the military services;

(4) The current and historical graduation rates of military officers attending PME at each schooling level, going back at least to 2018, if such historical data is available;

(5) Any findings or recommendations for improving military officer PME performance evaluations and assessments based upon this review; and

(6) Any other matters the Secretary deems relevant and appropriate.

Physical fitness requirements for close-combat occupational specialties

The committee understands the value of having individuals with diverse backgrounds and experiences serving in today's military. The committee also recognizes that servicemembers in military occupational specialties requiring close enemy combat must meet rigorous physical fitness requirements to ensure operational mission success.

Therefore, the committee directs the Secretary of Defense to provide a briefing to the Committees on Armed Services of the Senate and the House of Representatives, not later than February 1, 2023, that: (1) Provides a list of close-combat occupational specialties in each military department; (2) Describes the physical fitness requirements for each such specialty; and (3) Provides rationale for requiring servicemembers in non-combat occupational specialties to meet the same physical fitness requirements as members serving in close combat positions.

Pre-enlistment assistance policy and program review

Recent reports from the Department of Defense (DOD) show a small and declining percentage of young Americans who are both qualified and interested in joining the U.S. military. Physical fitness and mental aptitude screenings are major factors in determining whether an interested potential recruit is qualified for military service.

The committee has a keen interest in expanding the pool of Americans who are eligible for military service. It may be the case that the military needs to take a more active role in

preparing potential recruits for the various enlistment requirements. While there are some nascent programs currently available to help prepare people for the Armed Forces Vocational Aptitude Battery (ASVAB), these programs are self-guided, with little assistance provided by military recruiters. Additionally, the committee is unaware of any performance metrics associated with these programs.

Therefore, the committee directs the Under Secretary of Defense for Personnel and Readiness to provide a briefing to the Committees on Armed Services of the Senate and the House of Representatives not later than May 1, 2023 on any early tutoring and assistance provided to potential recruits. The briefing should include the following:

(1) Summary of all DOD policies related to assisting potential military recruits with preparing for the ASVAB and physical fitness assessments;

(2) Summary of all DOD programs currently designed to provide early assistance to potential military recruits with various requirements necessary for enlistment;

(3) A review of any legislation that prevents the DOD from offering additional assistance to potential military recruits; and

(4) Any other matters the Under Secretary considers relevant.

Report on Marine Corps aviation career paths

The committee notes the Department of Defense has long worked to improve aviator recruitment and retention, while non-flying duties and incentives from outside organizations have continued to degrade aviator recruitment and retention goals. Therefore, the committee directs the Secretary of the Navy to contract with a federally funded research and development center (FFRDC) for the performance of a study on alternative career paths within Marine Corps aviation, to be provided in an unclassified format to the Committees on Armed Services of the Senate and the House of Representatives not later than February 1, 2023.

In performing the study, the FFRDC shall take into account, within the context of the current Marine Corps aviation manpower structure and associated regulations, the following matters:

(1) Talent Management 2030;

(2) The 2022 United States Marine Corps Aviation Plan;

(3) The Marine Corps Force Design 2030; and

(4) The 2019 Commandant's Planning Guidance;

The study performed shall include the following elements:

- (1) An assessment of the relationship between collateral billets on naval aviator flight duties, career progression, flight performance, and retention;
- (2) An assessment of the relationship between assignment to billets outside primary military occupational specialty and naval aviator career paths, flight performance, and retention.
- (3) An assessment of the feasibility and advisability of enabling Marine Corps warrant officers to be designated naval aviators and fill naval aviator billets;
- (4) An assessment of the feasibility and advisability of naval aviator career paths that do not involve billets outside normal military occupational specialty or non-aviation related collateral billets;
- (5) Recommendations regarding how to implement the studied proposals within the Marine Corps; and
- (6) A presentation and discussion of dissenting viewpoints determined during the conduct of the study and report generation process.

Reprisals in flight training

The committee is concerned by recent reports in which several Marine aviators allege retaliation and harassment after reporting sexual harassment or assault. Specifically, the claims surround the use of Marine aviation performance boards for the purpose of retaliating against the aviators for making reports of sexual harassment or assault. As such, the committee directs that the Department of Navy Inspector General assess both the current command climate of the Marine aviation community and the use of Marine aviation performance boards with respect to individuals who made claims of sexual harassment or assault. The Inspector General shall report the findings to the Committees on Armed Services of the Senate and the House of Representatives not later than March 1, 2023.

Review of inclusion of sexual harassment under special trial counsel

The committee recognizes that the National Defense Authorization Act for Fiscal Year 2022 (Public Law 117-81) made historic changes to the way the military prosecutes allegations of sexual assault by moving the prosecution of those cases out of the chain of command and under the newly created Special Trial Counsel. The legislation, however, did not confer prosecutorial decisions for sexual harassment cases to the

Special Trial Counsel. The committee acknowledges that the creation of sexual harassment as a criminal charge will require careful implementation but recognizes the importance of independence when making decisions related to sexual harassment prosecutions. Allowing independent military attorneys to decide which sexual harassment offenses go to court-martial could strengthen servicemembers' confidence in the system. As such, the committee directs the Secretary of Defense to conduct a review to assess the feasibility and advisability of including the punitive article of sexual harassment within the scope of covered offenses over which Special Trial Counsel will exercise authority, and to provide the Committees on Armed Services of the Senate and the House of Representatives a report describing the results of that review not later than March 1, 2023.

Servicemember workforce development

The committee recognizes the importance of providing strong support to servicemembers and their families transitioning from Active Duty to the civilian workforce. Throughout a servicemember's service to their country, they develop unique skillsets, knowledge, and experience in their military occupational specialties (MOS) that complement the necessary skills within the civilian workforce. The committee supports the Department of Defense's efforts to expand the resources available for transitioning servicemembers' employment within the civilian workforce, but believes there is more work to be done in matching servicemembers' MOS and potential civilian occupations regularly and with fidelity. The committee encourages the Department of Defense to provide accurate means to collect data and support ongoing efforts to practically align military skills, knowledge, and experience with civilian occupational requirements.

SkillBridge program

The committee is concerned about the efficiency of the authorization and approval process required for servicemembers to participate in the SkillBridge program, particularly that delays as a result of requiring written authorization and approval could exclude servicemembers from fully participating in the program during their transition to civilian life. Ensuring that servicemembers have the opportunity to lay the groundwork for a successful civilian career is vital to their transition to the civilian workforce. Therefore, the committee directs the Secretary of Defense, in coordination with the Secretaries of the military departments, to submit a report to

the committee, not later than March 1, 2023, that includes a review of the efficiency of the authorization and approval process for the SkillBridge program across all service branches, including efforts to modernize the process through digitization and subsequent effects on the Department of Defense and military department tracking of SkillBridge utilization and outcomes.

TITLE VI—COMPENSATION AND OTHER PERSONNEL BENEFITS

SUBTITLE A—PAY AND ALLOWANCES

Temporary continuation of basic allowance for housing for members whose sole dependent dies while residing with the member (sec. 601)

The committee recommends a provision that would amend section 403 of title 37, United States Code, to authorize the Secretary of Defense to continue to pay certain servicemembers whose sole dependent dies while residing with the member basic allowance for housing at the "with dependent" rate for up to 1 year after the death of such dependent.

Basic allowance for housing for members without dependents when home port change would financially disadvantage member (sec. 602)

The committee recommends a provision that would permit the Secretaries of the military departments to treat a member who is assigned to a unit that undergoes a change of home port or a change of permanent duty station as if the unit to which the member is assigned did not undergo such a change if the Secretary concerned determines that it would be inequitable to do otherwise.

Extension of authority to temporarily adjust basic allowance for housing in certain areas (sec. 603)

The committee recommends a provision that would amend subsection 403(b)(8) of title 37, United States Code, to extend the Secretary of Defense's authority to prescribe a temporary adjustment in the current rates of basic allowance for housing (BAH) for a military housing area if such Secretary determines that the actual costs of adequate housing differ from the

current BAH rates by more than 20 percent through the end of 2024.

Increase in income for purposes of eligibility for basic needs allowance (sec. 604)

The committee recommends a provision that would amend section 402b of title 37, United States Code, to expand eligibility for the basic needs allowance to servicemembers whose households earn less than 150 percent of Federal poverty guidelines.

Conforming amendments to update references to travel and transportation authorities (sec. 605)

The committee recommends a provision that would make technical and conforming amendments to update references across the United States Code to existing travel and transportation authorities in title 37, United States Code.

SUBTITLE B—BONUS AND INCENTIVE PAYS

One-year extension of certain expiring bonus and special pay authorities (sec. 611)

The committee recommends a provision that would extend certain expiring bonus and special pay authorities by 1 year.

Repeal of sunset of hazardous duty pay (sec. 612)

The committee recommends a provision that would repeal subsection (h) of section 351 of title 37, United States Code, which provides for a sunset of the authorization to pay hazardous duty pay to certain eligible military members on December 31, 2022.

Prior to the consolidation of all legacy pay authorities under subchapter II of chapter 5 of title 37, United States Code, as required by the National Defense Authorization Act for Fiscal Year 2008 (Public Law 110-181), this authority was a permanent pay authority. This provision would restore hazardous duty pay to a permanent status under the new consolidated statute.

Authorization of assignment pay or special duty pay based on climate in which a member's duties are performed (sec. 613)

The committee recommends a provision that would amend section 352 of title 37, United States Code, to authorize the Secretary concerned to provide special duty pay to servicemembers performing duties in certain climates.

Military personnel are often required to perform their duties in uncomfortable conditions. This authority may provide additional flexibility to the military departments to provide additional compensation to reward members for exceptional performance in especially arduous conditions. For example, service in the Arctic or in the desert may not qualify for other forms of special duty pay and could be provided under this expanded authority.

SUBTITLE C—LEAVE

Modification of authority to allow members of the Armed Forces to accumulate leave in excess of 60 days (sec. 621)

The committee recommends a provision that would amend subsection 701(f) of title 10, United States Code, to reduce the number of leave days that servicemembers can retain under such subsection from 120 to 90 days after September 30, 2025. This provision would also repeal the authority of the Secretary of Defense to designate additional qualifying duties for the purposes of accumulating excess leave.

The committee has received extensive evidence that quality of life factors are essential to recruiting, retention, family wellness, suicide prevention, mental health, and the fitness and readiness of servicemembers. The longstanding cap of 60 days for retained accumulated leave is based on a policy preference for military members to use their leave for rest and recuperation rather than to accumulate it over many years in order to take a long period of extended leave. Rest and recuperation cannot be deferred for years without having a negative impact on family readiness.

The committee believes that a generous leave policy is an important benefit for servicemembers and their families. However, if servicemembers are allowed to retain accumulated leave for many years, they may never be able to use it.

The committee therefore encourages the Department of Defense to develop a uniform policy encouraging members to use their leave instead of accumulating leave in sums so large that it becomes impracticable for members to use it.

Technical amendments to leave entitlement and accumulation (sec. 622)

The committee recommends a provision that would repeal the obsolete authority in subsection 701(d) of title 10, United States Code, and make technical and conforming amendments pursuant to this change.

Convalescent leave for members of the Armed Forces (sec. 623)

The committee recommends a provision that would add a new subsection to section 701 of title 10, United States Code, to codify and define convalescent leave for members of the Armed Forces. The provision would also modify subsection (i) of such statute to clarify the scope of convalescent leave for members who have given birth.

The committee commends the Department of Defense (DOD) and the military services for embracing the streamlined and expanded parental leave benefit for military members authorized in the National Defense Authorization Act for Fiscal Year 2022 (Public Law 117-81) in the spirit in which it was intended.

The committee agrees with long-standing DOD and service policies that restrict convalescent leave eligibility to members who are recovering from medical conditions that make them not yet fit for duty. Convalescent leave must be given to members when appropriate, but, aside from the context of a member recovering from childbirth, which is separately addressed in section 701 of title 10, United States Code, such leave should be individually considered and granted on a case-by-case basis in response to a member's specific medical diagnosis. This could include convalescent leave for a member recovering from emotional distress, but such leave should only be given under the advice and guidance of a medical provider, and not as an automatic entitlement based on assumed medical need. Furthermore, convalescent leave has never been used as a catch-all leave status for any servicemember who might need to accompany a family member to a medical appointment, care for a sick family member, or provide other support or assistance to someone else. Such family support is critical and should be embraced and supported by the DOD, but it is outside the scope of convalescent leave.

The committee also notes that the military chain of command has broad latitude to order and authorize members to attend medical appointments and address their health needs while in a duty status. Military members do not accumulate "sick leave" or any such analog to the medical leave often provided to non-military members under the terms of civilian employment. Instead, the military departments have long exercised their authority to order military members to attend medical appointments for themselves and their family members while in an

ordinary duty status. Within reasonable limits, setting the time, place, and manner of military duty status is an inherent feature of the chain of command's authority.

Therefore, the committee encourages the Department of Defense to develop a uniform policy that encourages and supports servicemember attendance at family medical appointments, but in an authorized duty status and not under the authority of medical convalescent leave.

SUBTITLE D—OTHER MATTERS

Air Force rated officer retention demonstration program (sec. 631)

The committee recommends a provision that would require the Secretary of the Air Force to establish and carry out a demonstration program to improve the retention of certain rated officers.

ITEMS OF SPECIAL INTEREST

Basic allowance for housing for reserve component members without dependents on active orders who must maintain two households

The committee has heard concerns that some reserve component servicemembers without dependents who are called or ordered to Active Duty for durations between 140 and 365 days have faced financial hardship due to the Department of Defense policy that requires such periods of Active Duty to be a permanent change of station (PCS). Unlike members of the active component who typically PCS to new locations following attendance at instructional courses of this duration, members of the reserve component overwhelmingly return to their homes of record following the completion of a period of active service. Such reserve component members frequently have to continue to pay their mortgage or lease while they are on Active Duty and also pay for lodging at the location of their military duty. However, because they are given PCS orders, they are only given a single basic allowance for housing (BAH) and do not have sufficient income to pay for two households simultaneously.

Specifically, since the Joint Travel Regulation (JTR) requires all instructional courses in excess of 139 days to be a PCS assignment, the Department of Defense puts reserve component members in the position of having to sell or lease their homes for periods as short as 20 weeks in order to attend

instructional courses with durations between 140 and 365 days. This kind of short-term leasing may not be possible in many cases. In addition to financial hardship, this requirement may deter such members from attending such courses due to the financial burden of having to pay for both a lease or mortgage at their primary residence and cover lodging expenses at the location of their military duty.

The committee further notes that the Secretaries concerned are authorized under subsection 403(g) of title 37, United States Code, to authorize certain reserve component members without dependents who are called to Active Duty for a period of more than 30 days to receive both BAH at the location of both their home of record and at the location of their assigned duty, provided that they are not also afforded travel and transportation allowances under subchapter I of chapter 8 of title 37, United States Code, including allowances for the transportation of household goods that would be authorized under a PCS.

The committee encourages the Secretary of Defense to examine policies that would reduce this financial hardship on reserve members with no dependents. The committee further encourages the Secretary of Defense to either develop a uniform policy that streamlines the process for affected reserve component members to elect to receive dual BAH entitlements under subsection 403(g) and waive their travel entitlements and entitlement to transportation of household goods, or to develop policy exceptions in the JTR that would allow such members to attend instructional schools in a temporary duty status for up to 365 days so that they can maintain their home of residence and secure lodging at the location of their military duty using travel and transportation entitlements.

Accordingly, not later than April 1, 2023, the committee directs the Secretary of Defense to provide a briefing to the Committees on Armed Services of the Senate and the House of Representatives with an assessment of this issue and the policy solutions the Department is developing to alleviate this financial hardship on affected reserve component members without dependents, along with any relevant recommendations for legislative remedies to this problem.

Partial dislocation allowance for servicemembers ordered to vacate Government-provided housing

The committee commends the Department of Defense for updating the Joint Travel Regulations on May 1, 2022, to reflect the changes to sections 477(f)(1) and 452(c) of title 37, United States Code, in the National Defense Authorization Act for

Fiscal Year 2020 (Public Law 116-92), which allowed for the payment of partial dislocation allowance to unaccompanied or single servicemembers ordered to vacate barracks or dormitory-style Government housing for the convenience of the Government. The committee is aware of the significant financial burden that single servicemembers face when ordered to vacate Government-owned housing and believes it is appropriate for the Department to pay such servicemembers a one-time allowance to defray relocation costs.

Although the language in the statute is permissive, the committee commends the Department for setting forth the partial Defense Logistics Agency payment as an affirmative entitlement in the Joint Travel Regulation. The committee expects that payments to single servicemembers ordered to vacate barracks or dormitory-style housing will be made promptly and without unnecessary bureaucratic delay in order to provide the maximum timely benefit to affected servicemembers. The committee directs the Secretary of Defense to provide a briefing on the implementation of this expanded authority to the Committees on Armed Services of the Senate and the House of Representatives, not later than March 1, 2024, with an interim briefing on March 1, 2023, including the costs associated with this expanded authority, the number of single servicemembers who have benefitted from this policy, and any challenges or recommendations the Department has to ensure the continued funding and payment of this allowance on an ongoing basis.

Special pays to recruit and retain military cyber personnel with critical skills

The committee recognizes that the ability to effectively compete with and deter adversaries in the cyber domain is essential to protecting American institutions, the privacy and data of American citizens, and U.S. critical infrastructure. However, the committee has heard concerns that the Department of Defense continues to struggle to offer sufficient compensation and benefits to military cyber personnel to retain them in a competitive recruiting environment with the private sector.

The committee therefore encourages the Department to leverage its authorities under section 355 of title 37, United States Code, to offer special and incentive pays to recruit and retain those military cyber personnel with critical skills in the cyber domain.

TITLE VII—HEALTH CARE PROVISIONS

SUBTITLE A—TRICARE AND OTHER HEALTH CARE BENEFITS

Improvements to the TRICARE Dental Program (sec. 701)

The committee recommends a provision that would amend section 1076a of title 10, United States Code, to authorize improvements to the TRICARE Dental Program. The provision would require management of administrative functions, such as enrollment, eligibility, and premium payment processes by a third party administrator. Eligible beneficiaries would have three enrollment options in dental insurance plans offered by not less than four national dental insurance carriers who would manage dental care delivery matters, including claims adjudication, coordination of benefits, covered services, enrollment verification, and provider networks. Beneficiaries could enroll in either a standard or high option plan, and, where available, could enroll in a dental health maintenance option plan. The Department of Defense (DOD) would pay 60 percent of the cost of the standard option plan for each enrollment category. For high option plans, the DOD would pay 60 percent of the amount of the premium for a standard option plan, and enrollees would pay the remaining additional premium amount for the high option plan. Finally, enlisted members in pay grades E-1 through E-4 would pay reduced premiums and co-payments. The effective date of this provision would be January 1, 2025.

Health benefits for members of the National Guard following required training or other duty to respond to a national emergency (sec. 702)

The committee recommends a provision that would amend section 1145(a)(2) of title 10, United States Code, to authorize transitional health care benefits to a member of the National Guard who is separated from full-time duty when called or ordered by the President or the Secretary of Defense under section 502(f) of title 32, United States Code, for a period of active service greater than 30 days, in response to a national emergency declaration and supported by Federal funds.

Confidentiality requirements for mental health care services for members of the Armed Forces (sec. 703)

The committee recommends a provision that would require the Secretary of Defense to update and reissue Department of

Defense Instruction 6490.08, entitled ``Command Notification Requirements to Dispel Stigma in Providing Mental Health Care to Service Members,`` dated August 17, 2011, to reinforce the policies of eliminating stigma in obtaining mental health care services and further encouraging help-seeking behavior by members of the Armed Forces. The provision would also require the Secretary of Defense and the Secretary of Veterans Affairs to issue a joint policy that would provide, except in the case of exigent circumstances, for confidentiality of mental health care services provided by the Department of Veterans Affairs to members of the Armed Forces, including members of reserve components.

Improvement of referrals for specialty care under TRICARE Prime during permanent changes of station (sec. 704)

The committee recommends a provision that would amend section 714 of the John S. McCain National Defense Authorization Act for Fiscal Year 2019 (Public Law 115-232) to improve the medical referral process such that beneficiaries enrolled in TRICARE Prime shall receive referrals for specialty care services, as they may need, at the gaining location when making permanent change of station moves. The provision would require the Secretary of Defense to provide a briefing to the Committees on Armed Services of the Senate and the House of Representatives, not later than 180 days after the date of the enactment of this Act, on the contractual and technical barriers preventing record sharing between civilian provider networks of the TRICARE Program that may lead to increased wait times for health care services when beneficiaries move from one TRICARE region to another.

Study on providing benefits under TRICARE Reserve Select and TRICARE dental program to members of the Selected Reserve and their dependents (sec. 705)

The committee recommends a provision that would authorize the Secretary of Defense to conduct a study on the feasibility, potential cost effects to the Department of Defense, changes in out-of-pocket costs to beneficiaries, and effects on other Federal programs of expanding eligibility for TRICARE Reserve Select and the TRICARE Dental Program to all members of the Selected Reserve, their dependents, and non-dependent children under the age of 26. The provision would include the specifications of the study, if conducted, and would authorize the Secretary to use a federally funded research and development center to conduct the study. Additionally, if the Secretary

conducts the study, the provision would require the Secretary to provide a briefing to the Committees on Armed Services of the Senate and the House of Representatives, not later than 1 year after the date of the enactment of this Act, on the methodology and approach of the study. The Secretary would then submit a report on the study results to the same committees not later than 2 years after the date of the enactment of this Act.

SUBTITLE B—HEALTH CARE ADMINISTRATION

Improvements to organization of military health system (sec. 721)

The committee recommends a provision that would require the Secretary of Defense to submit a report on a study by the Department of Defense on the feasibility of and requirements for establishment of a defense health and medical readiness command as a superseding organization to the Defense Health Agency. The Secretary would be required to submit the report to the Committees on Armed Services of the Senate and the House of Representatives not later than 180 days of the date of the enactment of this Act.

In addition, this provision would require the Secretary to submit a plan to the same committees within the same time frame to establish within the Defense Health Agency a subordinate organization, the Military Health System Education and Training Directorate. The Secretary would be required to establish such directorate within 1 year after submission of the plan to the committees.

Inclusion of level three trauma care capabilities in requirements for medical centers (sec. 722)

The committee recommends a provision that would amend section 1073d(b)(3) of title 10, United States Code, to include level three trauma care capabilities in the requirements for medical centers in the Department of Defense.

Extension of Accountable Care Organization demonstration and annual report requirement (sec. 723)

The committee recommends a provision that would require the Secretary of Defense, acting through the Director of the Defense Health Agency, to extend the duration of the Accountable Care Organization demonstration, conducted pursuant to Federal Register notice published on August 16, 2019 (84 Fed. Reg.

41974), through December 31, 2028. The provision would require the Secretary to submit a report to the Committees on Armed Services of the Senate and the House of Representatives, not later than March 1 of each year, that describes the conduct of the demonstration for the 1-year period preceding the date of the report. The provision would describe the required elements of the report.

Modification of requirement to transfer public health functions to Defense Health Agency (sec. 724)

The committee recommends a provision that would authorize a military department, upon a determination made by the Secretary of Defense, to retain until September 30, 2023, a public health function that would otherwise be transferred to become part of the Defense Health Agency Public Health. The provision would require the Secretary to submit a report to the Committees on Armed Services of the Senate and the House of Representatives, not later than March 1, 2023, on those public health functions that the Secretary has determined may be retained by a military department. Finally, the provision would amend section 1073c(e)(2)(B) of title 10, United States Code, to modify the names of public health commands of certain military departments.

Establishment of Military Health System Medical Logistics Directorate (sec. 725)

The committee recommends a provision that would require the Secretary of Defense to submit to the Committees on Armed Services of the Senate and the House of Representatives, not later than 180 days after the date of the enactment of this Act, a plan to establish within the Defense Health Agency a subordinate organization, the Military Health System Medical Logistics Directorate. The provision would prescribe the elements of such plan and require the Secretary to establish the directorate within 1 year after submission of the plan to the committees.

The committee expresses concern about the existing disjointed approach to the planning, procurement, storage, utilization, standardization, and synchronization of operational theater medical equipment and supplies across the military health system. The committee has learned that the military departments procure theater medical equipment and supplies independently with insufficient standardization, commonality, and interoperability. The current approach can result in medical personnel being unfamiliar with certain types of medical

equipment and supplies while treating casualties in a joint operational theater. It can also lead to equipment or supplies being incompatible during the casualty evacuation process. Ultimately, the approach can increase the risk of poor outcomes for wounded, ill, and injured servicemembers. The committee believes this provision would standardize the procurement of medical materiel used in garrison and in theater medical operations, improve clinical outcomes, reduce the costs to train medical personnel on multiple equipment sets, and reduce the cost to maintain medical materiel.

Establishment of centers of excellence for specialty care in the military health system (sec. 726)

The committee recommends a provision that would require the Secretary of Defense to establish regional centers of excellence (COEs) for the provision of specialty care at existing major medical centers of the Department of Defense. The Department would establish COEs to: (1) Ensure readiness of the military medical force and medical readiness of the Armed Forces; (2) Improve the quality of health care received by covered beneficiaries of the Department; and (3) Improve health outcomes. The provision would require establishment of such centers within 1 year of the date of the enactment of this Act.

Requirement to establish Academic Health System (sec. 727)

The committee recommends a provision that would amend section 2113b(a) of title 10, United States Code, to require the Secretary of Defense to establish an academic health system in the National Capital Region to integrate the health care, health professions education, and health research activities of the military health system in that region.

Adherence to policies relating to mild traumatic brain injury and post-traumatic stress disorder (sec. 728)

The committee recommends a provision that would require the Secretary of Defense to direct the Secretaries of the Navy and the Air Force to address inconsistencies among the policies of the Department of Defense (DOD), the Department of the Navy, and the Department of the Air Force relating to the training of servicemembers on the identification of symptoms of mild traumatic brain injury (TBI) and to ensure that each Secretary monitors adherence to DOD's policies relating to TBI and post-traumatic stress disorder.

Policy on accountability for wounded warriors undergoing disability evaluation (sec. 729)

The committee recommends a provision that would require the Secretary of Defense, not later than April 1, 2023, to establish policy to ensure accountability for actions taken under the authorities of the Defense Health Agency and the military departments concerning wounded, ill, and injured servicemembers during the integrated disability evaluation process.

SUBTITLE C—REPORTS AND OTHER MATTERS

Three-year extension of authority to continue DOD-VA Health Care Sharing Incentive Fund (sec. 741)

The committee recommends a provision that would amend section 8111(d)(3) of title 38, United States Code, to provide a 3-year extension of the authority to continue the Department of Defense-Veterans Affairs health care sharing incentive fund.

Extension of authority for Joint Department of Defense-Department of Veterans Affairs Medical Facility Demonstration Fund (sec. 742)

The committee recommends a provision that would amend section 1704(e) of the National Defense Authorization Act for Fiscal Year 2010 (Public Law 111-84), as most recently amended by section 715 of the National Defense Authorization Act for Fiscal Year 2022 (Public Law 117-81), to extend the authority for the Joint Department of Defense-Department of Veterans Affairs Medical Facility Demonstration Fund from September 30, 2023, to September 30, 2024.

Authorization of permanent program to improve opioid management in the military health system (sec. 743)

The committee recommends a provision that would amend section 716 of the John S. McCain National Defense Authorization Act for Fiscal Year 2019 (Public Law 115-232) to authorize the Director of the Defense Health Agency to implement a permanent program to improve opioid management instead of a pilot program. The provision would require the Director to submit to the Committees on Armed Services of the Senate and the House of Representatives the specifications of and reasons for implementing a permanent program.

Clarification of membership requirements and compensation authority for Independent Suicide Prevention and Response Review Committee (sec. 744)

The committee recommends a provision that would amend section 738 of the National Defense Authorization Act for Fiscal Year 2022 (Public Law 117-81) to add a subsection that would provide for compensation of the members of the Independent Suicide Prevention and Response Review Committee.

Termination of veterans' advisory board on radiation dose reconstruction (sec. 745)

The committee recommends a provision that would amend section 601 of the Veterans Benefit Act of 2003 (Public Law 108-183) to terminate the Veterans' Advisory Board on Dose Reconstruction as this board has achieved its statutory objectives.

Scholarship-for-service pilot program for civilian behavioral health providers (sec. 746)

The committee recommends a provision that would require the Secretary of Defense to carry out a 10-year pilot program that could provide scholarships to cover tuition and related fees to an individual enrolled in a graduate program leading to a degree in clinical psychology, social work, counseling, or a related field. The program could also offer student loan repayment assistance to a credentialed provider in such fields. In exchange for a scholarship or loan repayment assistance, a recipient would commit to work as a provider in the direct care component of the military health system. The provision would describe post-employment obligations for recipients, including repayment of assistance if an employment obligation is not fulfilled. The Secretary would be required to submit an implementation plan to the Committees on Armed Services of the Senate and the House of Representatives not later than 1 year after the date of the enactment of this Act. Finally, the Secretary would be required to submit three reports to the same committees during the 10-year period of the pilot program that would provide certain data about the program.

Expansion of extramedical maternal health providers demonstration project to include members of the Armed Forces on active duty and other individuals receiving care at military medical treatment facilities (sec. 747)

The committee recommends a provision that would amend section 746 of the William M. (Mac) Thornberry National Defense Authorization Act for Fiscal Year 2021 (Public Law 116-283) to expand eligibility for the extramedical maternal health providers demonstration project to include Active-Duty servicemembers and other individuals receiving care at military medical treatment facilities.

Authority to carry out studies and demonstration projects relating to delivery of health and medical care through use of other transaction authority (sec. 748)

The committee recommends a provision that would amend section 1092(b) of title 10, United States Code, to authorize the conduct of studies and demonstration projects relating to the delivery of health and medical care through the use of other transaction authority. The provision would require the Secretary of Defense to provide a briefing, not later than 180 days after the date of the enactment of this Act, to the Committees on Armed Services of the Senate and the House of Representatives on how the Secretary intends to use this other transaction authority.

Capability assessment and action plan with respect to effects of exposure to open burn pits and other environmental hazards (sec. 749)

The committee recommends a provision that would require the Secretary of Defense, not later than 180 days after the date of the enactment of this Act, to conduct a capability assessment of potential improvements to activities of the Department of Defense to reduce the effects of environmental exposures to servicemembers and to develop an action plan to implement such improvements. The Secretary would be required to submit a report and action plan to the Committees on Armed Services of the Senate and the House of Representatives not later than 240 days after the date of the enactment of this Act.

Independent analysis of Department of Defense Comprehensive Autism Care Demonstration program (sec. 750)

The committee recommends a provision that would amend section 737 of the National Defense Authorization Act for Fiscal Year 2022 (Public Law 117-81) to make technical and clarifying changes to such section and to extend the reporting deadline from 9 to 31 months to afford the National Academies of Science,

Engineering, and Medicine sufficient time to conduct a thorough study and to provide the required report.

Report on suicide prevention reforms for members of the Armed Forces (sec. 751)

The committee recommends a provision that would require the Secretary of Defense to submit to the Committees on Armed Services of the Senate and the House of Representatives, not later than March 1, 2023, a report on the feasibility and advisability of implementing certain reforms related to suicide prevention among members of the Armed Forces.

Report on behavioral health workforce and plan to address shortfalls in providers (sec. 752)

The committee recommends a provision that would require the Secretary of Defense to conduct an analysis of the behavioral health workforce in the direct care component of the military health system and to submit a report to the Committees on Armed Services of the Senate and the House of Representatives not later than 180 days after the date of the enactment of this Act. The provision would also require the Secretary to submit a plan to the same committees, not later than 1 year after the date of the enactment of this Act, that would address the Department of Defense's behavioral health workforce shortfalls.

ITEMS OF SPECIAL INTEREST

Access to care in military medical treatment facilities

A report from the Inspector General of the Department of Defense (DOD) titled, "Evaluation of Access to Mental Health Care in the Department of Defense - August 2020," indicated that certain access to care data were unavailable at three military medical treatment facilities (MTFs) due to reporting limitations of the DOD's new electronic health record, MHS Genesis. Therefore, the committee directs the Secretary of Defense, acting through the Director of the Defense Health Agency, to provide a briefing to the Committees on Armed Services of the Senate and the House of Representatives, not later than December 31, 2022, on the plan of the DOD to measure beneficiary access to care at MTFs utilizing data from MHS Genesis. The plan shall also describe how the Department will publish near real-time access to care performance data on publicly available web sites of MTFs.

Allocation of uniformed mental health providers at remote locations

The committee is concerned about the availability of mental health services at military medical treatment facilities (MTFs) in remote locations, such as Fort Wainwright, Alaska, and Minot Air Force Base, North Dakota. The committee acknowledges existing challenges to recruiting and retaining uniformed mental health providers to serve in MTFs and to hire civilian providers when they are scarce and in high demand in remote communities.

Therefore, the committee directs the Secretary of Defense to provide a briefing to the Committees on Armed Services of the Senate and the House of Representatives, not later than March 1, 2023, on a model developed by the military departments and the Director of the Defense Health Agency (DHA) to determine requirements for allocations of uniformed mental health providers in MTFs. The briefing shall include a plan by such departments and the DHA to jointly allocate additional uniformed mental health providers to MTFs in remote locations and an assessment of the feasibility of hiring civilian mental health providers at remote locations to augment mental health services provided by uniformed mental health care providers.

Anomalous health incidents victim care

The committee notes the profound impact caused by anomalous health incidents (AHIs) on U.S. Government personnel and their dependents. In some cases, these incidents have resulted in life-altering and debilitating injuries for the victims. The long-term impacts on victims, including child dependents in particular, remain uncertain and more investigation is required to ascertain the full extent of these injuries. The committee strongly supports efforts by the Department of Defense to treat U.S. Government personnel, regardless of their originating agency, and dependent victims. However, the committee remains concerned with delays in communication with victims, including victim case management. Therefore, the committee directs the Director of the Defense Health Agency to provide a briefing to the committee, not later than December 1, 2022, on staffing and resourcing levels in the military health system (MHS) for AHI victim assessment and treatment, including efforts to establish victim case managers, reduce patient wait times for treatment, provide referral support when requested by patients, and improve appointment scheduling to facilitate a less onerous process for victims.

Additionally, the committee notes that section 732 of the National Defense Authorization Act for Fiscal Year 2022 (Public

Law 117-81) required the development of a special secretarial designation process to provide for the treatment of relevant Federal agency employees and their family members within the MHS. The secretarial designation process has been an invaluable resource to provide care for victims not affiliated with the Department of Defense (DOD). However, the committee is concerned that the process has proven to be uneven at times, with some victims waiting many months due to bureaucratic obstacles. The provision also required that the DOD modify the Trauma Registry to include information on AHI victims, including their family members. Given the uncertainty of the long-term impacts on AHI victims, the committee believes it is essential that the DOD comprehensively record relevant AHI victim information for the purposes of determining eligibility for care and benefits, providing for a longitudinal record of health conditions, and informing improvement of care, among other reasons. Therefore, the committee directs the Comptroller General of the United States to conduct a review of the DOD's compliance with section 732 of the National Defense Authorization Act for Fiscal Year 2022. At a minimum, the review shall include:

- (1) An assessment of the secretarial designation process, with a particular focus on process efficiency;
- (2) An assessment of the effectiveness of the Trauma Registry as a data collection and tracking tool with a comparison of any other similar systems extant in the MHS;
- (3) Recommendations to improve victim wait times through the secretarial designation process and enhancements for the recordation of AHI victims in the Trauma Registry; and
- (4) Any other matters deemed relevant by the Comptroller General.

Appreciation for Department of Defense contributions to COVID-19 response

The committee reiterates its appreciation for the efforts by the Department of Defense (DOD) as part of the COVID-19 response, including the support provided to the Countermeasures Acceleration Group (CAG), formerly known as Operation Warp Speed; the leadership of General Gustavo F. Perna, who provided critical management of the program, and his staff; the U.S. Army Contracting Command and the Joint Program Office for Chemical, Biological, Radiological and Nuclear Defense.

The committee notes that the Department transitioned its vaccine program responsibilities to the Department of Health and Human Services (HHS) in late 2021. The committee directs the Secretary of Defense to provide a briefing to the committee, not

later than December 1, 2022, on the transition of its vaccine program responsibilities to the HHS, and the capabilities that it could bring to bear to support the development, production, and distribution of updated vaccines in the future.

Brain plasticity research

The committee commends the Department of Defense (DOD) for its continued research and development activities related to treating central nervous system (CNS) injuries sustained by servicemembers during combat and to the long-term results of injury that may manifest as neurodegenerative diseases. The committee is aware of recent advances in the development of therapeutics designed to repair nervous system damage and to promote brain plasticity that have shown promise for recovery from traumatic brain injury (TBI), spinal cord injury (SCI), and associated neurodegenerative conditions.

Therefore, the committee directs the Director of the Defense Health Agency, in coordination with the Assistant Secretary of Defense for Health Affairs, to provide a briefing, not later than March 1, 2023, to the Committees on Armed Services of the Senate and the House of Representatives on the Department's investments in the development of therapeutics to promote brain plasticity following TBI, SCI, and other nervous system disorders. The briefing shall include, at a minimum, the following: (1) An assessment of existing and planned investments in TBI and CNS therapeutics and their applicability in promoting brain plasticity; (2) A strategy that incorporates research, development, procurement, and required regulatory partnerships to expedite delivery of TBI and CNS therapeutics supportive of brain plasticity that can enhance warfighter health and recovery following injury; and (3) Recommendations for changes to DOD policy or procedures that may be needed to support the delivery of TBI and CNS therapeutics that promote brain plasticity.

Broad spectrum host-directed small molecule antivirals

The committee remains concerned that there has been insufficient focus on the development of antivirals as a medical countermeasure. The COVID-19 pandemic and emerging diseases such as the Ebola and avian flu outbreaks have highlighted the importance of the rapid development of small molecule broad-spectrum antivirals that can treat a myriad of infectious diseases. Therefore, the committee encourages the Assistant Secretary of Defense for Health Affairs to prioritize and fund the advanced development of such antivirals to address the

national security and public health threats of emerging diseases.

Broad-spectrum antibody therapeutics

The committee notes that the recent challenges in medical response and mitigation to the COVID-19 pandemic demonstrated the critical need for rapid response platforms capable of discovery, development, manufacturing, and deployment of broad-spectrum therapeutic countermeasures. The committee is aware that the need to respond rapidly, in an uncertain clinical environment to a diverse population, drives a necessity to invest in broad-spectrum medical countermeasures to ensure having the right tool at the right time. The committee notes that monoclonal antibodies can serve as an important complement to vaccines or antiviral treatments, and thus can serve an important role in the Department of Defense's mission to protect deployed forces and warfighter capabilities. Based on the growing value of monoclonal antibody research, the committee encourages the Department to continue to explore research to enhance monoclonal antibody discovery, research, and development programs in order to rapidly respond to emerging and re-emerging pathogens.

Comptroller General review of the quality of care in TRICARE provider networks

The committee recognizes the importance of the quality and safety of care provided to TRICARE beneficiaries in both the direct care system of military medical treatment facilities (MTFs) as well as the private care system of civilian provider networks developed by managed care support contractors. As in all health care delivery settings, concerns may arise about the quality and safety of care delivered by individual health care providers. On December 15, 2011, the Government Accountability Office (GAO) published a report, titled "DOD Health Care: Actions Needed to Help Ensure Full Compliance and Complete Documentation for Physician Credentialing and Privileging" (GAO-12-31), which reported a number of concerns about MTFs' provider credentialing and privileging process, which is used to ensure that a provider is qualified and competent to be granted permission to perform specific health care services. GAO continues to review this issue for the direct care system in light of the Defense Health Agency's (DHA) recent policy on clinical quality that includes credentialing and privileging, among other processes. Similarly, TRICARE contractors are

required to meet certain quality standards for the civilian provider networks that also include ensuring that providers have appropriate credentials and privileges for the care they provide.

To ensure the quality of care provided in TRICARE's civilian provider networks, the committee directs the Comptroller General of the United States to conduct an assessment of the effectiveness of the quality assurance program of TRICARE provider networks with respect to the contracting of civilian medical providers in the network and the recording of adverse privileging and credentialing actions of civilian medical providers. The committee further directs the Comptroller General to provide a briefing to the Committees on Armed Services of the Senate and the House of Representatives, not later than July 1, 2023, and to issue a report to follow at a time agreed to subsequent to the briefing. This review should include an evaluation of the contract requirements related to the credentialing and privileging of TRICARE network providers, how the contractors implement those requirements, and how the DHA provides oversight, as well as any other matters the Comptroller General deems relevant.

Developmental and Behavioral Family Readiness Centers

The committee notes the challenges that servicemembers with exceptional family members experience in assignments impacted by access to appropriate health care for their family members, especially while serving in remote locations with limited health care capabilities. The committee understands that the Air Force Developmental and Behavioral Family Readiness Centers' (DBFRC) hub-spoke model can support up to 10 such locations with a 10-person team by leveraging virtual healthcare, tele-consultation, or providers traveling to the spoke bases. This initiative has already demonstrated a decrease in medical appointment wait times, improved health outcomes, and allowed more military families in the Exceptional Family Member Program to transfer to locations that best support the mission.

The committee expects the Defense Health Agency (DHA) to support the DBFRC to full operational capability at the identified nine hub and spoke locations. Furthermore, the committee directs the Director of the DHA and Air Force Surgeon General to develop joint criteria to evaluate the program after full operational capability with a goal to expand it throughout the entire military health system (MHS) to support EFMP across all military departments. The committee directs the Director and the Surgeon General to provide a joint briefing to the Committees on Armed Services of the Senate and the House of

Representatives, not later than February 1, 2023, on the status of DBFRC implementation that includes a description of the criteria developed to evaluate the program as it expands throughout the MHS.

Greater use of technology to treat mental health

The committee remains supportive of the Department of Defense's (DOD) use of telehealth across state lines to deliver mental and behavioral health services to servicemembers. However, the committee notes that these services could be expanded and scaled to include more forms of technology, including text messaging platforms, such as short messaging service or WhatsApp, smartphone apps, and other technological tools and interfaces to reach young adults who are more comfortable interfacing with technology than an in-person mental health provider. Therefore, the committee requests that the Director of the Defense Health Agency, not later than April 1, 2023, assess the utility of current self-help apps and provide a briefing to the Committees on Armed Services of the Senate and the House of Representatives on the feasibility of: (1) Expanding the DOD's use of technology platforms to deliver mental and behavioral health services, especially to young servicemembers; and (2) Incentivizing commercial startup companies to develop digital therapies, such as apps to build resilience or reduce suicidal ideation, that demonstrate quality evidence for the safety and clinical benefit of the product in real-world clinical settings.

Implementation report on self-initiated mental health referrals

The committee included improvements to the Department of Defense self-initiated referral process for mental health evaluations of members of the Armed Forces in the National Defense Authorization Act for Fiscal Year 2022 (Public Law 117-81). To enable oversight of the implementation of these modifications, the Under Secretary of Defense for Personnel and Readiness shall submit to the Committees on Armed Services of the Senate and the House of Representatives, not later than March 1, 2023, a report on the implementation of the self-initiated referral process required under section 1090a(e) of title 10, United States Code. The report shall include: (1) Any Department of Defense instruction or other document issued by the Secretary of Defense with respect to the implementation of the self-initiated referral process required under subsection (e) of section 1090a of title 10, United States Code; (2) Any memorandum issued by the Secretary of a military department

directing the implementation of such process; (3) A description of any communications made to members of the Armed Forces with respect to the implementation of such process; (4) A description of efforts by the Secretary of each military department to implement the annual training required under subsection (f) of such section; and (5) A description of efforts to ensure that such process reduces stigma in accordance with subsection (b) of such section.

Intranasal ketamine for battlefield analgesia

The Senate report accompanying S. 2792 (S. Rept. 117-39) of the National Defense Authorization Act for Fiscal Year 2022, included a recommendation that the Department of Defense (DOD) conduct pre-clinical testing and clinical trials of intranasal ketamine such that the results may be used to facilitate Food and Drug Administration (FDA) approval of intranasal ketamine for acute pain management. The committee understands that the DOD's medical research and development program is focused on adding a label indication for treatment of acute pain with ketamine and to explore routes of administration to manage pain on the battlefield. To better understand the DOD's intent for future ketamine research, the committee directs the Secretary of Defense to provide a briefing to the Committees on Armed Services of the Senate and the House of Representatives, not later than December 31, 2022, on its current and future research efforts, and the results of such efforts, regarding the potential use of ketamine for acute pain management.

Medical accession standards and mental health diagnoses

The committee understands that a mental health diagnosis generally requires a medical waiver for a potential recruit to enter military service even though serving servicemembers diagnosed with such conditions may continue to serve while undergoing therapy and treatment. Given the recruitment challenges that the military departments face now and in the future, the committee expresses concern that the Department of Defense's (DOD) medical accession standards policy pertaining to pre-existing mental health conditions of potential recruits further shrinks the number of young people eligible for military service.

Therefore, not later than December 31, 2022, the Secretary of Defense, in collaboration with the Secretaries of the military departments, shall provide a briefing to the Committees on Armed Services of the Senate and the House of Representatives on the policies and procedures that the military departments use

to evaluate pre-existing mental health diagnoses in their recruitment process. Specifically, the briefing shall compare and contrast how the DOD considers diagnosed mental health conditions for the accession of military recruits and for retention of currently serving servicemembers. The briefing shall also include a discussion regarding how the DOD could change existing medical accession standards to broaden the pool of eligible recruits who may have experienced a mental health condition.

National Disaster Medical System pilot program

Section 740 of the National Defense Authorization Act for Fiscal Year 2020 (Public Law 116-92), as amended by section 741 of the William M. (Mac) Thornberry National Defense Authorization Act for Fiscal Year 2021 (Public Law 116-283), directed a pilot program to establish civilian and military partnerships to enhance interoperability and medical surge capability and capacity of the National Disaster Medical System. The committee is disappointed that funding was not included in the budget request for fiscal year 2023 for such partnerships. As a result, the committee encourages the Secretary of Defense to include funding for the pilot program in the budget request for fiscal year 2024.

Obstetrical care referrals

After a primary care physician in the TRICARE network refers a beneficiary for specialty medical care, the military health system's (MHS) right-of-first-refusal (ROFR) policy gives a military medical treatment facility (MTF) the right to provide specialty care to TRICARE Prime beneficiaries when available at the facility. While this policy helps to ensure more efficient and effective use of the full scope of medical services at MTFs, it can lead to a disruption of care and beneficiary dissatisfaction.

The committee is aware of challenges faced by certain TRICARE beneficiaries who were disengaged from obstetrical care in the TRICARE civilian provider network as late as their third trimester of pregnancy because of the ROFR policy. The committee believes that this policy and practice unnecessarily disrupts a beneficiary's continuity of care at a critical time during a pregnancy. Therefore, the committee directs the Director of the Defense Health Agency to revise the ROFR policy to prevent late-stage referrals to MTFs during the course of a beneficiary's pre-natal obstetrical care.

Parent stress measures under Department of Defense Comprehensive Autism Care Demonstration Program

The committee has heard objections from parents of children receiving services under the Department of Defense Comprehensive Autism Care Demonstration (ACD) Program regarding an intrusive question concerning parental intimate relationships included as part of the Stress Index for Parents of Adolescents. Especially in the context of stress on military families in general, and those with special needs children in particular, the committee recognizes the value of clinically appropriate methods to understand and address issues of family stress, both for individual families and for the TRICARE program in the aggregate. While the stress testing is completely confidential, certain privacy boundaries are still appropriate, and overly intrusive questions seem counterproductive to the ACD's clinical objectives. Therefore, the committee directs the Defense Health Agency to: (1) Re-evaluate the stress testing used in the ACD and determine if other validated tests or surveys may better gauge family stress; (2) Modify or eliminate overly intrusive questions in the current test or any subsequent test; and (3) Ensure that parents understand that they are not required to answer objectionable questions.

Psychological evaluations for members of the Armed Services returning from non-combatant evacuation operations

The committee directs the Secretary of Defense to encourage servicemembers to seek an initial psychological evaluation if they have served as part of a non-combatant evacuation operation (NEO) in Central Asia, between August 15, and August 29, 2021, and have not already received a NEO-related psychological evaluation with respect to such service.

Severe fracture research

The committee is aware of emerging research and techniques to mitigate post-operative infections in persons who suffer severe fractures. Within certain military occupational specialties, the potential to suffer a severe fracture is high. Special operations, airborne operations, air assault operations, military freefall operations, and mountain warfare operations are all environments where servicemembers may suffer such fractures. The committee understands that prevention of post-operative infections from severe fractures is a critical factor in determining whether a servicemember can fully recover and return to duty, and it has shared benefits for military

healthcare system resource allocation, force preservation, and long-term disability expenditures. Therefore, the committee encourages the Assistant Secretary of Defense for Health Affairs to develop a plan to utilize emerging research and techniques to help prevent post-operative infections in servicemembers who suffer severe fractures.

Smallpox vaccine

The committee recognizes the devastating impact that biological threats, whether naturally occurring or deliberate, can have on U.S. national security, as evidenced by the COVID-19 pandemic. The committee is aware that the Department of Defense paused the pre-deployment administration of the ACAM2000 smallpox vaccine due to concerns about adverse events, including but not limited to myocarditis, that could potentially increase the risk of morbidity and mortality in those vaccine recipients who are proximately infected with SARS-CoV-2, the virus that causes the COVID-19 disease.

In light of the heightened concern of potential adversaries deploying deliberate biological threats, the committee is concerned that the pause of smallpox vaccination poses significant force health protection implications. The committee understands that the Food and Drug Administration has recently licensed a new smallpox vaccine that does not pose the same safety concerns associated with ACAM2000. Therefore, the committee directs the Department of Defense to accelerate procurement and administration of smallpox vaccines that have a more favorable safety profile than ACAM2000 to ensure forces at risk of biological agent exposure are able to be vaccinated.

Suicide prevention initiatives

The committee commends the Air Force Medical Service for its efforts to optimize use of limited, in-demand mental health providers via its "Targeted Care" initiative. The committee encourages the Air Force to collaborate with the Defense Health Agency (DHA) and to share lessons learned from this initiative across the military health care system. Furthermore, the committee notes the compelling results of the Air Force-supported Zero Suicide Systems Approach research study. In particular, the study demonstrated the value that a universal screening protocol together with case management and administrative support can make to proactively manage mental health care.

Therefore, the committee directs the Director of the DHA and the Surgeons General of the military departments to develop a 3-year phased roll-out and standardized training plan to implement these initiatives across the military health system (MHS) not later than December 31, 2023. The Director and the Surgeons General shall provide a joint briefing to the Committees on Armed Services of the Senate and the House of Representatives by April 1, 2023, that describes how such initiatives shall be implemented throughout the MHS.

Task Force True North

The committee is encouraged by the success of the Air Force's Task Force True North (TFTN) program and the steps that the Air Force and the Defense Health Agency are taking to increase the number of mental health professionals, including licensed professional counselors, that can be employed in military medical treatment facilities and in programs like TFTN. The committee remains concerned, however, that the Nation-wide shortage of mental health professionals limits the degree to which the Department of Defense can provide servicemembers with better access to mental health care services. The committee encourages the Defense Health Agency to work with Department of the Air Force installations, including those with embedded TFTN programs, State governments, and accreditation boards to enable licensed master social workers to enter a TFTN program and complete clinical licensure requirements under the supervision of a licensed clinical social worker.

Tri-Service Nursing Research Program

The Tri-Service Nursing Research Program (TSNRP) has advanced the science and research of military nursing to support mission readiness, to improve the health and quality of life of military personnel and beneficiaries, and to provide high-caliber nursing care around the globe.

The committee strongly urges the Secretary of Defense to establish the TSNRP as an independent program with a dedicated budget line so it may continue its work creating a culture of evidence-based nursing practice within the military health system.

Vector-borne bio- and xeno-surveillance

The committee understands the importance of establishing and maintaining Department of Defense (DOD) bio- and xeno-surveillance capabilities to detect, identify, and respond to

emerging pathogens and bio-threats requiring medical countermeasures critical to force medical readiness. A wide range of bio- and xeno-surveillance activities by the DOD exist, and the committee encourages Department-wide coordination of this ongoing work. Therefore, the committee directs the Secretary of Defense to provide a briefing to the Committees on Armed Services of the Senate and the House of Representatives by December 1, 2022, detailing ongoing and planned bio- and xeno-surveillance programs involving vector-borne and zoonotic infectious diseases. The briefing shall include the following: (1) A review of DOD vector-borne and zoonotic pathogen surveillance activities and their locations; (2) An assessment of the complementary nature of these activities, including any redundant programs; (3) An assessment of vector-borne and zoonotic pathogen data repositories and associated risk prediction capabilities; (4) A plan identifying governance and coordination of vector-borne and zoonotic surveillance activities across the Department in accordance with DOD Directive 6420.02; and (5) The identification of any bio- and xeno-surveillance capability gaps, research and development requirements, or needed expansion of the Department's work to provide better force health protection support.

Walter Reed National Military Medical Center personnel shortfalls

The committee strongly believes that the Walter Reed National Military Medical Center (WRNMMC) must be a world-class medical center fully staffed and prepared to provide first-class combat casualty medical care to wounded, injured, and ill servicemembers and their families as envisioned by the 2005 Defense Base Closure and Realignment Commission. The committee is disappointed in the declining numbers of military healthcare professionals that the military departments have assigned to the WRNMMC and the resulting negative impact on its operations.

To address this, the committee directs the Director of the Defense Health Agency to submit a report to the Committees on Armed Services of the Senate and the House of Representatives, not later than March 1, 2023: (1) Documenting the military, civilian, and contract staffing by occupational specialty at the WRNMMC as of December 31, 2022; (2) Providing a current, valid joint manning document for WRNMMC that ensures its enduring status as a world-class medical center; and (3) Identifying any personnel shortfalls and submitting a plan to address these shortfalls.

Wound healing technology

The committee commends the Department of Defense (DOD) for its continued research and development activities related to treating injuries sustained by servicemembers in austere environments. The committee understands the importance of providing life-saving technologies to treat combat-related wounds and encourages the Department to continue pursuing the development and fielding of critical technologies supporting wound healing. Given the injury patterns anticipated in future combat operations, the committee is concerned about the potential obsolescence of existing negative pressure wound therapy devices.

Therefore, the committee directs the Assistant Secretary of Defense for Health Affairs to provide a briefing, not later than March 1, 2023, to the Committees on Armed Services of the Senate and the House of Representatives on the Department's plans for continued use of negative pressure wound therapy in managing combat-related wounds. At a minimum, the briefing shall include: (1) A review of existing negative pressure wound therapy devices currently used within the DOD that includes an assessment of their utility in supporting wound treatment in future combat operations; (2) A plan that outlines requirements, key performance parameters, and specifications for negative pressure wound therapy devices for use in future combat casualty care scenarios; and (3) A strategy that incorporates research, development, and procurement of next generation negative pressure wound therapy devices for use in combat operations.

TITLE VIII—ACQUISITION POLICY, ACQUISITION MANAGEMENT, AND RELATED MATTERS

SUBTITLE A—ACQUISITION POLICY AND MANAGEMENT

Modifications to middle tier acquisition authority (sec. 801)

The committee recommends a provision that would require the component acquisition executives to approve an acquisition plan within 1 year of a program being designated as either a rapid prototyping or rapid fielding program for middle tier of acquisition (MTA) programs.

The committee is supportive of using the MTA pathway to rapidly develop and deploy innovative technologies and capabilities to operational units. However, the committee is concerned that the desire for speed in these programs could lead

to the omission of key elements of good program management. Therefore, the committee believes that MTA programs and the associated stakeholders would benefit from a clear transition plan, life-cycle cost estimate, and test plan.

Extension of Defense Modernization Account authority (sec. 802)

The committee recommends a provision that would permanently extend the authority for the Defense Modernization Account.

Prohibition on certain procurements of major defense acquisition programs (sec. 803)

The committee recommends a provision that would prohibit the procurement of items used in major defense acquisition programs made in, or by companies controlled by, China.

The committee is concerned about the susceptibility of Department of Defense acquisition program supply chains to a range of malign activities that have been and continue to be perpetrated by foreign actors. The committee believes that one key vulnerability is the sourcing of certain materials and components from China. The Department's continued reliance on such items poses unacceptable risks to U.S. national security. In addition, the committee recognizes that, for any significant supply chain adjustment, a transition period is necessary to minimize disruption.

Accordingly, this provision would require the Secretary of Defense to transition the sourcing of items used in the Department's major defense acquisition programs to sources other than those controlled by China with a one-time waiver to minimize disruption during such transition.

Revision of authority for procedures to allow rapid acquisition and deployment of capabilities needed under specified high-priority circumstances (sec. 804)

The committee recommends a provision that would resolve inconsistencies and codify rapid acquisition authorities from section 806 of the Bob Stump National Defense Authorization Act for Fiscal Year 2003 (Public Law 107-314) and section 804 of the Ike Skelton National Defense Authorization Act for Fiscal Year 2011 (Public Law 111-383).

Acquisition reporting system (sec. 805)

The committee recommends a provision that would require the Secretary of Defense to institute an acquisition reporting system to replace Selected Acquisition Reports (SARs). The Department of Defense (DOD) should use this system to make access to acquisition information available to authorized users at least quarterly.

The committee is aware that advances within the Department to link existing and future information technology systems, coupled with advanced analytic and visualization tools, provide an opportunity to improve the speed and quality of information available to decision makers. While the SARs served a need for congressional oversight and over time provided critical data to parts of the Department, academia, and others to support processes well beyond oversight, the committee is concerned the relatively static and inflexible nature of the SARs process is outdated and out of sync with modern business processes.

The committee encourages the Department, in structuring the processes and data linkages for the required acquisition reporting system, to take a broad perspective on how to create a system architecture to ensure that it not only meets certain congressional oversight needs, but also considers the Department's own decision making data needs and enduring longitudinal data requirements to ensure the system has the broadest applicability and impact.

The committee also directs the Comptroller General of the United States to assess the DOD's efforts to replace Selected Acquisition Reports including: (1) An analysis of the Director of Cost Assessment and Program Evaluation plan for including specific data elements in the replacement reporting system directed by section 805 of the National Defense Authorization Act for Fiscal Year 2022 (Public Law 117-81); (2) An analysis of the Under Secretary of Defense for Acquisition and Sustainment plan for developing a replacement acquisition reporting system directed by section 805 of the National Defense Authorization Act for Fiscal Year 2022; (3) An assessment of whether the DOD's plans for the replacement reporting system are sufficient to allow for their continued use for the purposes of chapter 325 of title 10, United States Code, including measuring cost growth in acquisition programs; (4) An assessment of whether the DOD's plans for the replacement reporting system are sufficient to allow for their continued use for the purposes of sections 4217 and 4311 of the Atomic Energy Defense Act, Division C, Title XXXVI of the Bob Stump National Defense Authorization Act for Fiscal Year 2003 (Public Law 107-314); (5) An assessment of whether there are other existing uses of the Selected Acquisition Reports which should be continued in the DOD's replacement reporting system; and (6) Any other issues relating

to acquisition reporting systems which the Comptroller General determines appropriate. The Comptroller General should provide a briefing to the congressional defense committees, not later than March 1, 2023, and a report at a mutually agreed upon date.

Modification of reporting requirement in connection with requests for multiyear procurement authority for large defense acquisitions (sec. 806)

The committee recommends a provision that would amend section 3501 of title 10, United States Code, to streamline the process for submitting a request to carry out a defense acquisition program using multiyear contract authority.

Modification of limitation on cancellation of designation of Executive Agent for a certain Defense Production Act program (sec. 807)

The committee recommends a provision that would modify the cancellation of the executive agent designation for a certain Defense Production Act program.

Comptroller General assessment of acquisition programs and related efforts (sec. 808)

The committee recommends a provision that would amend section 3072(a) of title 10, United States Code, to extend an annual assessment by the Comptroller General of the United States of Department of Defense acquisition programs and efforts.

The committee notes that the Comptroller General's annual assessment of selected weapons programs has been a highly valued product supporting the congressional defense committees' oversight for over 20 years.

The committee believes that, given the flexible acquisition authorities provided to the Department through the Adaptive Acquisition Framework, the Comptroller General's assessments must continue to keep pace and should cover the full range of the Department's available authorities.

SUBTITLE B—AMENDMENTS TO GENERAL CONTRACTING AUTHORITIES, PROCEDURES, AND LIMITATIONS

Treatment of certain clauses implementing executive order mandates (sec. 821)

The committee recommends a provision that would amend section 3862 of title 10, United States Code, to clarify that the insertion of a clause implementing a new requirement mandated by an Executive Order into a Department of Defense contract vehicle would be considered a Government-directed change.

Data requirements for commercial products for major weapon systems (sec. 822)

The committee recommends a provision that would modify section 3455 of title 10, United States Code, to allow the Department of Defense to require offerors for certain sole source contracts asserting commercial of a type determinations to provide price data to support their bid submissions in certain circumstances.

Task and delivery order contracting for architectural and engineering services (sec. 823)

The committee recommends a provision that would amend section 3406 of title 10, United States Code, to modify how the most highly qualified contractor is selected to perform architectural and engineering services.

The committee is concerned that the Army Corps of Engineers has an enormous backlog of unexecuted projects. The committee is further concerned that the Corps of Engineers is adding process steps that are costly and time-consuming. Examples include a newly discovered requirement to routinely ask for submissions on task order contracts for multiple award task order architectural and engineering services. Another example is the Corps of Engineers' decision to, at the end of the fiscal year, return supervision and administration funding for contracts funded with expiring funds. While the projects can continue, this decision results in a blackout at the end of the fiscal year and the start of the new fiscal year when the Corps is not funded to manage ongoing contracts, resulting in delays due to the inability to review shop drawings, answer requests for information, or address changes.

Accordingly, the committee directs the Comptroller General of the United States to review a sample of multiple award task order architect engineering contracts to determine: (1) How long it takes the Corps of Engineers to acquire a task order for architect and engineering services under a multiple award

contract; (2) What the added cost is in terms of time and money for requesting and review of task order submissions; (3) If the Corps routinely informs unsuccessful proposers that they were not selected for a task order and if so, how promptly is the notification made; (4) If the Corps Districts and Centers use the same processes and notifications; and (5) Other Comptroller General observations on contracting for architect and engineering services. The Comptroller General shall brief the committee on its findings no later than March 1, 2023.

Additionally, the committee directs the Secretary of the Army to direct a study of Corps of Engineers contracting processes to identify ways to reduce the cost and time of delivering construction projects. The study should include a review of architect engineering contracting, construction contracting, implementation of project partnering on design and construction contracts, and contracting for installation level maintenance and repair as well as service contracts. The study should identify reforms that are needed in contracting and project execution including those that require legislation. The Secretary should provide the study to the committee not later than March 1, 2023.

Extension of pilot program for distribution support and services for weapons systems contractors (sec. 824)

The committee recommends a provision that would extend the pilot program established in section 883 of the National Defense Authorization Act for Fiscal Year 2017 (Public Law 114-328) by 1 year.

Pilot program to accelerate contracting and pricing processes (sec. 825)

The committee recommends a provision that would extend the Defense Pricing and Contracting pilot program authority to January 2, 2024.

Extension of Never Contract with the Enemy (sec. 826)

The committee recommends a provision that would extend the sunset in section 841(n) of the Carl Levin and Howard P. "Buck" McKeon National Defense Authorization Act for Fiscal Year 2015 (Public Law 113-291) to December 31, 2025.

The committee notes that the administration requested to extend and expand this authority. The committee has received insufficient justification to expand this authority and is concerned, as part of such expansion, with the potential for:

(1) Unduly subjective determinations; (2) Uneven implementation across commands; (3) A lack of Office of Secretary of Defense oversight; (4) Insufficient options for reconsideration by affected contractors; and (5) Unclear conditions of applicability to U.S.-owned, -operated, and -located contractors that may or may not do business with the Department.

Accordingly, the committee supports a 2-year extension of the existing authority and recommends the Department modify its legislative proposal to expand such authority to address the committee's concerns in a comprehensive manner.

Progress payment incentive pilot (sec. 827)

The committee recommends a provision that would require the Secretary of Defense to establish and implement a four-year pilot program to make accelerated progress payments contingent upon responsiveness to Department of Defense goals for effectiveness, efficiency, and increasing small business contract opportunities.

Report on Department of Defense Strategic Capabilities Office contracting capabilities (sec. 828)

The committee recommends a provision that would require a report on the contracting capabilities of the Department of Defense's Strategic Capabilities Office (SCO), including an assessment of the extent to which changes to these capabilities could benefit the SCO in carrying out its mission.

SUBTITLE C—INDUSTRIAL BASE MATTERS

Analyses of certain activities for action to address sourcing and industrial capacity (sec. 841)

The committee recommends a provision that would require the Secretary of Defense to review certain goods and services and make a determination regarding the appropriateness of limiting sourcing or taking other specified procurement actions.

Modification to miscellaneous limitations on the procurement of goods other than United States goods (sec. 842)

The committee recommends a provision that would require the Under Secretary of Defense for Acquisition and Sustainment to conduct periodic reviews of certain items included in section 4864 of title 10, United States Code.

Demonstration exercise of enhanced planning for industrial mobilization and supply chain management (sec. 843)

The committee recommends a provision that would require the Secretary of Defense to conduct a demonstration exercise of industrial mobilization and supply chain management planning capabilities in support of an operational or contingency plan use case, as selected in consultation with the Chairman of the Joint Chiefs of Staff and the Under Secretary of Defense for Acquisition and Sustainment. In addition, the provision would require an assessment at the end of the demonstration exercise to describe the use cases considered, how the elements of the demonstration exercise were addressed, outcomes, conclusions, and lessons learned, and any recommendation for legislative action.

The committee notes that there will likely be data or lessons from this demonstration exercise process that may also have the additional benefit of helping provide data and insight into the mergers and acquisitions review processes in the Department of Defense. The committee encourages the Department, in structuring this demonstration exercise, to consider the process on-ramps and off-ramps for other related activities and how to implement lessons learned across initiatives.

Procurement requirements relating to rare earth elements and strategic and critical materials (sec. 844)

The committee recommends a provision that would require the Department of Defense to track the sourcing of contractor-provided rare earth elements and critical materials, with certain national security waivers and periodic reviews of the Department's tracking by the Comptroller General of the United States. The provision would also expand some restrictions on the procurement of military and dual-use technologies by Chinese military companies.

Modification to the national technology and industrial base (sec. 845)

The committee recommends a provision that would add New Zealand to the National Technology Industrial Base (NTIB). The committee believes that the NTIB provides unique opportunities for collaboration on research, development, production, and the provision of services between allies and helps foster a secure, reliable industrial base in a variety of critical technology areas.

Given the close collaboration between existing NTIB members and New Zealand, the committee believes adding New Zealand to the NTIB is a logical extension and will strengthen the NTIB and its objectives. The committee notes adding New Zealand to the NTIB would result in the NTIB countries being identical to the signatories of the United Kingdom-United States of America Agreement, as amended, which was enacted on March 5, 1946 and is commonly referred to as the Five Eyes. The committee believes this change should result in greater synergy and collaboration across a range of important national security and defense industrial base issues.

Modification of prohibition on operation or procurement of foreign-made unmanned aircraft systems (sec. 846)

The committee recommends a provision that would modify section 848 of the National Defense Authorization Act for Fiscal Year 2020 (Public Law 116-92) by adding Russia, Iran, and North Korea to the list to which the prohibition applies.

Annual report on industrial base constraints for munitions (sec. 847)

The committee recommends a provision that would require annual reporting on industrial base constraints for munitions.

SUBTITLE D—SMALL BUSINESS MATTERS

Modifications to the Defense Research and Development Rapid Innovation Program (sec. 861)

The committee recommends a provision that would modify section 4061 of title 10, United States Code, to make modifications to the Defense Rapid Innovation Program to focus and improve technology development and transition outcomes for the Department of Defense.

Permanent extension and modification of Mentor-Protege Program (sec. 862)

The committee recommends a provision that would amend section 831 of the National Defense Authorization Act for Fiscal Year 1991 (Public Law 101-510) by removing the word pilot from the Mentor-Protégé Program, increasing the participation term from 2 to 3 years, and making the program permanent. The committee notes that section 872(d) of the National Defense

Authorization Act for Fiscal Year 2020 (Public Law 116-92) required the Defense Business Board (DBB) to conduct a review evaluating the effectiveness of the program. The ensuing report, published March 8, 2022, titled "FY2022 Assessment of the Department of Defense Mentor-Protégé Program" (DBB FY22-01), included several recommendations to improve the efficiency and success of the program that the committee endorses.

The committee is aware that there are limited capabilities to capture data related to the Mentor-Protégé Program. Currently, the program utilizes paper-based forms and email, limiting the ability to effectively leverage business intelligence or data visualization tools to improve analysis of the program. The lack of robust tools to collect data from mentors, proteges, and Department of Defense (DOD) components constrains any insights into trends or areas of concern. The committee believes the Mentor-Protégé program would benefit from enhanced use of data analytics tools to efficiently gather data from relevant stakeholders and report on the data to highlight trends, areas of success, and areas needing attention.

Therefore, not later than March 1, 2023, the committee directs the Office of Small Business Programs to conduct an assessment of existing DOD business intelligence and data analytics tools to determine if there is a system or suite of capabilities that can meet the needs of the program. In addition to finding a better way to review the data currently collected, in the assessment the Department should determine the feasibility of additional data elements that might be collected, including: (1) Denial or delay of agreements; (2) Number of agreements cancelled prior to completion; (3) Sectors of the mentors and proteges; (4) Metrics on awareness and marketing campaigns; and (5) Any other data points the Director of the Office of Small Business Programs would like to include.

Additionally, while the Mentor-Protégé Program has been in place for over 30 years and has assisted over 1,000 protégés, it remains relatively unknown amongst many small businesses. Small business participation with the DOD has been steadily decreasing and the barriers to entry to work with the Department are increasing. To increase awareness of the Mentor-Protégé Program, the committee believes that the Department should improve and increase communication and marketing efforts. Therefore, the committee directs the Director of the Office of Small Business Programs to complete and implement a communications strategy for the Mentor-Protégé Program and submit it to the Committees on Armed Services of the Senate and the House of Representatives, not later than October 1, 2023. The strategy should include but not be limited to: (1) Potential participation in Mentor-Protégé Program conferences, or incorporation into other DOD industry

outreach events; (2) Partnerships with other private and public small business organizations; and (3) Additional marketing actions that can improve awareness.

Small business integration working group (sec. 863)

The committee recommends a provision that would require the Secretary of Defense to create a small business integration working group, to be led by the Director of the Department of Defense Office of Small Business Programs, to improve coordination of the Department's small business efforts.

The committee commends the Department of Defense for the number of efforts underway to facilitate small business participation in the defense industrial base. However, the committee is concerned that these efforts are run out of a number of different organizations across the Department with varying degrees of coordination. The committee believes that the Department could better leverage its small business outreach resources in a coordinated manner.

Demonstration of commercial due diligence for small business programs (sec. 864)

The committee recommends a provision that would require the Secretary of Defense to conduct a demonstration of commercial due diligence tools, techniques, and processes in order to support small businesses in identifying attempts by malicious foreign actors to gain undue access or foreign oversight, control, and influence over technology under development on behalf of the Department of Defense (DOD). The committee recognizes that small businesses are particularly vulnerable to predatory commercial actions from foreign malicious actors that can easily disguise their behavior in the multitude of transactions the open and transparent U.S. business environment allows. The committee believes that additional effort to help monitor and surveil suspect transactions for potential intellectual property theft on behalf of small businesses is helpful both to protect their integrity and the integrity of their intellectual property, as well as to protect DOD interests.

The committee also recognizes that the types of commercial due diligence tools under consideration have the additional benefit of helping provide data and insight into the mergers and acquisitions review processes in the Department. The committee encourages the Department, in structuring this demonstration, to consider the process on-ramps and off-ramps for other related

activities, and how to implement lessons learned across initiatives.

Improvements to Procurement Technical Assistance Center program (sec. 865)

The committee recommends a provision that would amend sections 4955(a)(1) and 4961 of title 10, United States Code, to improve the Procurement Technical Assistance Center program by increasing the funding limit and making certain administrative changes.

SUBTITLE E—OTHER MATTERS

Risk management for Department of Defense pharmaceutical supply chains (sec. 871)

The committee recommends a provision that would require the Under Secretary of Defense for Acquisition and Sustainment to develop guidance for risk management of pharmaceutical supply chains, and for the Director of the Defense Health Agency to develop an implementation plan for such guidance and establish a working group to better assess and mitigate risks to the Department of Defense's pharmaceutical supply chains.

Key advanced system development industry days (sec. 872)

The committee recommends a provision that would require periodic industry days for developing key advanced systems.

Modification of provision relating to determination of certain activities with unusually hazardous risks (sec. 873)

The committee recommends a provision that would amend section 1684 of the National Defense Authorization Act for Fiscal Year 2022 (Public Law 117-81) to require the submission of certain reports through fiscal year 2024.

Incorporation of controlled unclassified information guidance into program classification guides and program protection plans (sec. 874)

The committee recommends a provision that would require the Secretary of Defense to ensure that all program classification guides (for classified programs) and all program protection plans (for unclassified programs) include guidance

for the proper marking for controlled unclassified information (CUI) at their next regularly scheduled update. The provision would also require the Department of Defense to establish a process for monitoring progress and to have all updates completed by January 1, 2029.

As noted elsewhere in this Act, the committee understands the Department's uneven application of CUI markings is particularly problematic for industry, which often receives little CUI training or guidance from the Government and is unsure of its responsibilities regarding this marking convention. The committee is also concerned with the extent and efficacy of the training, guidance, and oversight provided to the Department's Government personnel on the CUI marking convention, which has resulted in the over-classification of entire documents and a lack of clear portion markings within documents.

ITEMS OF SPECIAL INTEREST

AbilityOne program

The committee commends the work of AbilityOne nonprofit agencies that are critical components of the domestic defense industrial base. This program supports the Department of Defense and employs individuals who are blind or have severe disabilities in accordance with the chapter 85 of title 41, United States Code while also promoting domestic defense manufacturing and the enhancement of infrastructure.

Therefore, under existing statutes, regulations, and Executive Orders, the committee recommends the Department of Defense consider additional contract opportunities under the priority of source procurement requirements through engagement with the AbilityOne Commission to place Department of Defense supplies and services, or portions of supplies and services, on the AbilityOne Procurement List.

Assessment of commercial sustainment standards for defense applications

The committee is aware that there are commercial standards, such as the S-Series Integrated Product Support specifications (the S-Series), that can enable the seamless passage of technical data, and enable a common architecture and data model for logistics, provisioning, technical publications, courseware, scheduled maintenance, and maintenance data feedback. The committee notes that the S-Series was developed to allow stakeholders to leverage a common architecture and core

data model, which enables common product support processes across a system's life cycle.

While the Department of Defense implements standards across other technical areas, such as acquisition and information systems, the committee is concerned that less attention has been paid to sustainment despite it being a significant driver of cost and effort. The committee believes that despite the clear potential of the S-Series, and its broad adoption by international partners and allies, the Department has not implemented policies to ensure consistent application of the S-Series across the military services.

The committee believes the S-Series approach could enable interoperability, reduce complexity, enhance collaboration, and reduce reliance on proprietary tools and processes. The committee further believes that the adoption of the S-Series could enable the Department to use data at speed and scale for operational advantage based on an agile open architecture, robust standards, tiered governance, and a data-driven workforce.

Therefore, the committee directs the Under Secretary of Defense for Acquisition and Sustainment to provide a briefing, not later than March 1, 2023, to the committee assessing the feasibility and advisability of adoption and implementation of the S-Series suite of specifications by the Department. Such briefing shall include consideration of best practices and lessons learned from industry groups, as well as international partners and allies with experience in adoption and implementation of the S-Series.

Assessment of Department of Defense small business contracting goals

The committee supports the Department of Defense's (DOD) goal of engaging with small businesses in a concerted fashion in order to foster innovation and attract new entrants into the defense industrial base. Small businesses are vital components in the defense and innovation ecosystem, which has been demonstrated by the Department in the specific cases of the Small Business Innovation Research (SBIR) and Small Business Technology Transfer (STTR) programs. In a study of the economic impact from SBIR/STTR, the Department found that from 1995 to 2012, those two programs alone resulted in a 22 to 1 return on investment, including \$347.0 billion in total economic impact Nation-wide and the creation of 1,508,295 jobs.

The committee is aware that the Department is working on a new small business strategy to better articulate how it might structure its engagements to be more open and inviting and to

hopefully widen and diversify the pool of companies supporting DOD needs. The committee anticipates that a component of that strategy will look at how to improve the ability of small businesses to compete for Defense contracts, including how to take fullest advantage of existing small business contracting goals. The committee is aware that these goals are spread across multiple socioeconomic categories, which each have broad support and constituency. However, the committee is also aware that from a congressional perspective, those goals are often looked at individually by category, not at a holistic level to understand how the goals taken together can mutually reinforce positive outcomes or inadvertently interfere with one another.

To better understand the impacts of the current approach to small business contracting goals within the Department of Defense, the committee directs the Assistant Secretary of Defense for Industrial Base Policy to conduct an independent assessment of the Departments' small business contracting goals and to report to the Committees on Armed Services of the Senate and the House of Representatives, not later than June 1, 2023, with an interim briefing and not later than January 1, 2024, with a final assessment report. This assessment shall include: (1) Impact of the subcontracting goals for each socioeconomic category and the metrics utilized to come to that conclusion; (2) Identification of any overlap in categories, as well as any gaps in current categories; (3) Identification of the impacts specific categories might have (positive and negative) on other specific socioeconomic categories; (4) Recommendations for how to improve the definitions or uses of categories, as well as how the Department might make better use of small business contracting goals broadly; and (5) Any other findings or recommendations the Assistant Secretary might deem appropriate.

In conducting the assessment, the committee encourages the Department to leverage a federally funded research and development center, university affiliated research center, or other similar independent, non-profit entity to help provide an independent viewpoint. The committee fully expects the Director of the Office of Small Business Programs in the Department to participate and support this assessment, in coordination with the small business program offices in the military services.

Briefing on adherence to conflict of interest disclosure requirements

The committee understands that Federal Acquisition Regulations (FAR) include explicit language mandating that Government agencies must determine whether contractors have any conflicts of interest related to specific contracts they may be

awarded. In instances when contractors disclose conflicts of interest, they must develop a mitigation plan, seek a waiver from the contracting officer, or withdraw from the project. The committee has been made aware of one or more companies that may have failed to disclose conflicts of interest to the Department of Defense (DOD). The committee is concerned about the potential impact these failures to disclose potential conflicts of interest could have on DOD operations, especially in instances involving Chinese and Russian contracts.

Therefore, the committee directs the Secretary of Defense to provide a briefing to the Committees on Armed Services of the Senate and the House of Representatives, not later than February 1, 2023, on current processes the DOD uses to monitor, assess, and determine the potential impact or risk of conflicts of interest by companies bidding for and executing DOD contracts. The briefing shall include at a minimum: (1) An assessment of current FAR requirements and DOD instructions on determining potential conflicts of interest; (2) The current process for periodically monitoring and assessing the risk implications of such disclosures over time; (3) A summary of cases where conflicts were found and how they were resolved; (4) A summary of any companies found in violation of required reporting of conflict of interests and mitigation actions that were taken by the DOD; and (5) A summary of existing DOD Office of Inspector General investigations on potential violations of FAR requirements requiring disclosure of conflicts of interest.

Comptroller General report on Adaptive Acquisition Framework implementation

The committee notes that in an effort to improve performance and deliver capabilities faster, the Department of Defense recently revamped its acquisition policy by establishing an Adaptive Acquisition Framework (AAF) comprised of six acquisition pathways, each tailored for the characteristics and risk profile of the capability being acquired.

Accordingly, the committee directs the Comptroller General of the United States to assess the primary acquisition policies of the Departments of the Army, Navy, and Air Force and report on: (1) The extent to which each service is tailoring acquisition programs to best utilize the flexibilities of the AAF; (2) The extent to which the acquisition workforce of each service understands how to appropriately apply and implement the AAF, including identifying the most suitable pathway for different acquisition programs; (3) The extent to which service acquisition executives and other senior acquisition leaders are providing guidance and coaching to program teams on how best to

tailor acquisition programs and monitor performance; (4) Any other issues that the Comptroller General deems appropriate with respect to the military services' implementation of the AAF. The Comptroller General shall provide a briefing to the congressional defense committees, not later than February 1, 2023, with a report to follow at a mutually agreed upon date.

Comptroller General report on portfolio management of Department of Defense weapons system programs

The committee notes that many successful large companies use a portfolio management approach to evaluate, select, prioritize, and allocate limited resources to programs and projects that collectively best accomplish the organization's strategic objectives. In recent years, the Congress has directed the Department of Defense (DOD) to take steps to consider and, where appropriate, implement portfolio management approaches for weapons system programs. For example, section 836 of the William M. (Mac) Thornberry National Defense Authorization Act for Fiscal Year 2021 (Public Law 116-283) required the DOD to establish capabilities for robust, effective, and data-driven portfolio management to improve assessment, management, and optimization of the investments in weapons system programs. The committee also believes that a portfolio approach will allow the Department to do a better job of linking enabling technologies or activities (such as Middle Tier Acquisitions (MTA), Small Business Innovation Research (SBIR) programs, or other science & technology (S&T) activities) with major programs, which has the possibility to improve technology insertion and capability upgrades over time.

Therefore, the committee directs the Comptroller General of the United States to assess the DOD's recent efforts to improve portfolio management for its weapons system programs. Specifically, the Comptroller General shall:

(1) Review progress made by the Office of the Secretary of Defense and the services in:

(a) identifying portfolios within weapons system acquisition programs, including supporting enablers or integrating technologies from MTAs, SBIR or the S&T base; and

(b) improving portfolio management policies, practices, and data systems for the acquisition of weapons systems;

(2) Identify and address key challenges that remain to fully adopting leading practices for portfolio management; and

(3) Address any other issues that the Comptroller General determines appropriate with respect to portfolio management at the DOD.

The Comptroller General shall provide a briefing to the congressional defense committees on preliminary findings not later than October 1, 2023, and submit a report to the committees on an agreed-upon date.

Comptroller General Review of Department of Defense mergers and acquisitions

The February 2022 State of Competition within the Defense Industrial Base report from the Office of the Under Secretary of Defense for Acquisition and Sustainment found that the Department of Defense (DOD) faces "a historically consolidated defense industrial base" and identified the need for heightened review from the Department of future mergers and acquisitions.

The committee notes these concerns and believes competition within the defense industrial base improves cost, schedule, and performance for the products and services needed to support national defense and incentivizes innovation through competition. The committee believes a framework for ongoing monitoring and assessment of the industrial base, underpinned by adequate data (commercially available, as well as DOD-derived), is an important component for any effective, long-term approach.

Therefore, the committee directs the Comptroller General of the United States to evaluate the Department's oversight processes for vetting proposed mergers and acquisitions within the defense industrial base including: (1) The DOD's current authorities and oversight processes in merger decisions including the extent to which the DOD makes recommendations to Federal agencies that make antitrust determinations; (2) The DOD's current data sources (including commercially available data), visualization and analytical tools to support long-term monitoring and assessment of the defense industrial base environment; (3) The DOD's processes and policies to share information related to proposed mergers and acquisitions received by Federal antitrust agencies including the Department of Justice and Federal Trade Commission, including both the timeliness and comprehensiveness of information sharing; (4) The DOD's processes for determining the potential risk posed to the defense industrial base by mergers and acquisitions, both if consummated and if not consummated, including potential horizontal or vertical mergers that may present competition concerns and the situation of companies that may cease to be financially viable absent a merger or acquisition; (5) The DOD's understanding or evaluation of standards, frameworks, or indices

(such as the Herfindahl-Hirschman Index) that may provide useful benchmarks to better understand the health of the industrial base; (6) Any process improvements, best practices, lessons learned, or other information that would benefit the DOD's ability to make better recommendations on proposed mergers and acquisitions; and (7) Any other issues that the Comptroller General deems appropriate with respect to mergers and acquisitions within the defense industrial base.

The Comptroller General shall provide a briefing to the congressional defense committees, not later than March 1, 2023, with a report to follow at a mutually agreed upon date.

Comptroller General review of modular open systems approaches for weapon systems

The committee notes that designing weapons using modular open systems approaches (MOSA) can offer a number of benefits, including: significant cost savings or avoidance, schedule acceleration, rapid deployment of new technologies, opportunities for technology upgrades, improved interoperability, and increased competition.

While the Department of Defense (DOD) has implemented MOSA on some systems over the last two decades, the National Defense Authorization Act for Fiscal Year 2017 (Public Law 114-328) required the use of MOSA to the extent practicable for major defense acquisition programs. The committee is concerned that while the DOD has taken some steps to update policies and guidance to comply with this mandate, the Government Accountability Office (GAO), in a report published June 23, 2021, titled "Software Development: DOD Faces Risks and Challenges in Implementing Modern Approaches and Addressing Cybersecurity Practices" (GAO-21-351), recently identified remaining challenges, including: lack of acceptance by the relevant communities, negative effects on system performance, intellectual property rights complexity, and cybersecurity considerations.

Therefore, the committee directs the Comptroller General of the United States to assess the DOD's use of MOSA in developing weapon systems. Specifically, the Comptroller General shall examine: (1) The extent to which the military services are using MOSA in the development of weapon systems across Adaptive Acquisition Framework pathways, including selected examples of programs using MOSA; (2) Efforts by the Office of the Secretary of Defense and the military departments to develop a framework for the governance and implementation of MOSA; (3) Development of an overall investment strategy to support the development and implementation of MOSA approaches that can be adopted by current

or future programs; (4) Key challenges the DOD faces related to implementing MOSA; and (5) Other related matters the Comptroller General deems appropriate.

The Comptroller General shall provide a briefing to the congressional defense committees on preliminary findings not later than October 1, 2023, and submit a report to the committees on an agreed-upon date.

Comptroller General review of Procurement Administrative Lead Times

The committee is aware that the Office of Management and Budget (OMB) issued a memorandum on January 14, 2021, requiring all Federal agencies to track, measure, and publicly report Procurement Administrative Lead Times (PALT) for contracts.

The memorandum, titled "Reducing Procurement Administrative Lead Time Using Modern Business Practices," provided guidance on steps agencies should take to reduce PALT. The committee is concerned that little action has been taken, even though this information would likely be extremely valuable as a leading indicator in measuring the Department of Defense's progress in speeding up acquisition, as well as with the Department's current focus on improving data availability and visualization to support decision making.

Accordingly, the committee directs the Comptroller General of the United States to assess all Department of Defense Components' efforts to implement the Office of Federal Procurement Policy guidance on PALT. This assessment shall include: (1) Analysis of Department processes developed to monitor progress on reducing PALTs (including the availability and tracking of data through established information technology systems for senior management within the Department and the military services); (2) Assessment of progress the Department has made in sharing PALT results publicly; (3) Assessment of the Department's plans to address underlying issues such that PALTs can be reduced; (4) The Comptroller General's recommendations for improving outcomes; and (5) Other related matters the Comptroller General deems appropriate.

This assessment shall reflect efforts in the Office of the Secretary of Defense, the military departments, and Defense Agencies and Field Activities. The Comptroller General shall provide a briefing to the congressional defense committees not later than February 1, 2023, and a report at a mutually agreed upon date.

Coordination on entities of concern for Department of Defense contracting

The committee notes that Department of Defense contracting processes remain vulnerable to malicious actors despite prohibitions on certain entities as well as enhanced supply chain management. The committee believes the implementation of section 889 of the John S. McCain National Defense Authorization Act for Fiscal Year 2019 (Public Law 115-232) has been a critical tool in reducing such vulnerabilities despite a complex, international web of supply chains with concerning foreign dependencies in some technology areas.

The committee believes more can and should be done to actively manage the Department's supply chain vulnerabilities. The committee is aware of additional lists of malicious companies and organizations that are maintained by agencies outside of the Department and is concerned that these entities may go unnoticed by the Department. For example, the Bureau of Industry and Security of the Department of Commerce maintains a list set forth in Supplement No. 4 to part 744 of title 15, Code of Federal Regulations. There are also prohibited covered telecommunications equipment or services, as defined in section 52.204-25 of title 48, Code of Federal Regulations, as well as services included in the list published pursuant to section 2(a) of the Secure and Trusted Communications Networks Act of 2019 (47 U.S.C. 1601(a)).

Therefore, the committee directs the Secretary of Defense to contract with a federally funded research and development center to deliver a report to the congressional defense committees on the advisability of the Department of Defense adopting or coordinating prohibitions detailed within various lists of entities of concern. This report shall include the following elements:

(1) A description of the authorities of the Department of Defense that may be used to prohibit, exclude, or prevent the use of suspect products, services, or entities by contractors of the Department, including:

(a) the discretionary authorities of the Department to prohibit, exclude, or prevent the use of such products, services, or entities;

(b) the authorities of a suspension and debarment official to prohibit, exclude, or prevent the use of such products, services, or entities;

(c) authorities relating to supply chain risk management for telecommunications systems or services;

(d) authorities that provide for the continuous monitoring of information technology networks to identify suspect products, services, or entities; and

(e) the applicability of the authorities provided under the Federal Information Security Management Act of 2002 (Public Law 107-296);

(2) An assessment of any gaps in the authorities described in clause (1), including any gaps in the enforcement of decisions made under such authorities.

(3) An explanation of the capabilities and methodologies used to periodically assess and monitor the information technology networks of contractors of the Department of Defense for prohibited products, services, or entities;

(4) An assessment of the ability of the Department of Defense to periodically conduct training and exercises in the use of the authorities described in clause (1):

(a) to identify recommendations for streamlining process; and

(b) to identify recommendations for education and training curricula, to be integrated into existing training or certification courses;

(5) A description of information sharing mechanisms that may be used to share information about suspect products, services, or entities, including mechanisms for the sharing of such information among the Federal Government, industry, the public, and international partners;

(6) Identification of existing tools for business intelligence, application management, and commerce due-diligence that are either in use by elements of the Federal Government, or that are available commercially, and may be used to monitor the supply chains of the Department of Defense;

(7) Recommendations for improving the authorities, processes, resourcing, and capabilities for the purpose of improving the procedures for identifying and removing prohibited products or services from the supply chain of contractors of the Department of Defense; and

(8) Such other matters as the Secretary considers appropriate.

An interim briefing on the preliminary results of this report shall be provided by March 1, 2023, with the final report provided by July 1, 2023. The interim briefing and final report shall be submitted in unclassified form, but may include a classified annex.

Expansion of Industrial Base Analysis and Sustainment initiatives in the Indo-Pacific region

The committee is aware that the Department of Defense's (DOD) Industrial Base Analysis and Sustainment (IBAS) program has been funding critical workforce development programs that

support the submarine and naval industrial base under its National Imperative for Industrial Skills.

The committee recognizes that this initiative and the industrial skills investments it is fostering have been demonstrating success that will be the foundation for a strong and sustainable naval industrial base. The industrial skills workforce development ecosystem model that IBAS has implemented and funded has the potential to provide a framework and methodology that could be exportable to other geographic regions and technical sectors.

With the ongoing competition in the Indo-Pacific region, the committee recognizes that having a locally-based and -skilled workforce is critical to ensuring the mission and readiness at Pearl Harbor Naval Shipyard (PHNSY) and other facilities in the region necessary to sustain, maintain, and project power in the region. In addition, the establishment of PHNSY's Guam Detachment to support increasing submarine maintenance needs underscores the importance of Hawaii and Guam in countering malign Chinese naval activity.

Therefore, the committee directs the Undersecretary of Defense for Acquisition and Sustainment, in coordination with the Commander, Naval Sea Systems Command, to conduct an assessment of the feasibility to expand IBAS initiatives to better support the workforce and training of the Indo-Pacific region and provide a briefing to the committee not later than December 1, 2022. This briefing shall address the applicability of current IBAS initiatives to PHNSY, any workforce gaps not addressed by current IBAS initiatives, existing activities at PHNSY executed through other mechanisms that could be better integrated with IBAS initiatives, and any funding, authority, or resource gaps that, if addressed, could improve the workforce development initiatives in the Indo-Pacific region including at PHNSY.

Inspector General review of Controlled Unclassified Information

As noted elsewhere in this Act, the committee is concerned with the uneven application of controlled unclassified information (CUI) document marking within the Department of Defense (DOD). While the committee understands the need to protect sensitive unclassified information, we remain concerned that a clear, systematic process and corresponding guidance from the Department for applying the CUI marking guidance is lacking.

The committee understands this issue is particularly problematic for industry, which often receives little CUI training or guidance from the government and is unsure of its responsibilities regarding this marking convention. The

committee is also concerned with the extent and efficacy of the training, guidance, and oversight provided to the Department's Government personnel on the CUI marking convention, which has resulted in the over-classification of entire documents and a lack of clear portion markings within documents.

Therefore, the committee directs the Department of Defense Inspector General (DOD IG) to conduct a review of CUI marking guidance, training and oversight and to provide a report to the congressional defense committees not later than June 1, 2023. In conducting this review, the committee directs DOD IG to examine a cross-section of military departments, agencies and activities, as well as documents provided by a range of Department contractors in the course of their work for the Government. Additionally, this review shall include:

- (1) The adequacy of existing CUI training and guidance to Government and industry personnel;
- (2) Mechanisms to track and remediate issues, as well as provide higher-level, systematic oversight, for Department-wide CUI marking directives including establishment of metrics and lessons learned;
- (3) A spot check assessment of a subset of Department-marked CUI documents to determine if they reflect current guidance including portion markings, as well as to identify any potential gaps or challenges with that guidance; and
- (4) Other matters as the DOD IG deems appropriate.

Medical Chemical, Biological, Radiological and Nuclear Defense Consortium contract ceiling

The committee has learned that several members of the Medical Chemical, Biological, Radiological and Nuclear Defense Consortium (MCDC) and its consortium management firm performed vital work to develop COVID-19 vaccines and therapeutics utilizing task orders on an existing Department of Defense (DOD) other transactions agreement contract with the consortium that was issued in 2016 by the Army Contracting Command in Picatinny, New Jersey. The committee understands this successful work was performed on a cost recovery basis, with the companies and the consortium management firm voluntarily accepting no profit. The committee lauds this effort by the MCDC and believes that companies should not be unfairly deprived of their intended scope of work and associated earnings because of their contributions to addressing the Nation's pandemic crisis.

Accordingly, the committee urges the Secretary of the Army to consider increasing the MCDC contract ceiling by the dollar amount of the COVID-19 work that was performed on a no-fee basis

and that such contract remain in place until the revised ceiling is reached on the expiration of the original period of performance in 2026. Further, while the committee is aware of this specific MCDC contract issue related to COVID-19 work, the committee urges the Secretary of Defense to review all DOD contracts utilized for COVID-19 work beyond the original scope of such contracts and provide ceiling and period of performance relief as appropriate.

Modernizing defense supply chain management

The committee acknowledges that continuing to modernize Department of Defense (DOD) supply chain management utilizing private sector best practices where applicable is imperative to run effective domestic and overseas operations, ensure timely maintenance and sustain military forces. The committee supports the Secretary of Defense's continued development and integration of advanced digital supply chain management and capabilities. These capabilities should include tools that digitize data flows in order to transition from older, inefficient manual systems, modernize DOD warehouse operations to use digitized data management and inventory control, and maximize cybersecurity protection of logistics processes. To meet the DOD's unique needs regarding continuity of supply chain management in both garrison and deployed or austere environments, the Department must prioritize digital supply chain management solutions that use durable devices and technologies designed to operate in remote regions with limited network connectivity.

Nontraditional defense contractor goods and services

The committee believes that the greater use of commercial goods and services in defense procurements can help encourage broader participation of nontraditional defense contractors (NDC) in the defense industrial base and improve acquisition efficiencies and foster innovation. However, the committee understands that although section 3457 of title 10, United States Code, empowers the acquisition community with authorities to leverage commercial procurement processes in dealing with NDCs, contracting officers are sometimes hesitant, or refuse, to exercise this authority.

The committee is concerned that in some instances, this hesitancy may be due to the lack of guidance and procedures from senior acquisition officials, including service and Defense Agency contracting officials, to encourage and facilitate the use of these authorities.

Therefore, the committee directs the Assistant Secretary of Defense for Acquisition to provide a briefing to the Committees on Armed Services of the Senate and the House of Representatives, not later than March 1, 2023, on the use of NDC acquisition authorities pursuant to section 3457 of title 10, United States Code, since 2016, including the utilization rate by service and Defense Agency, the types of products and services acquired, number of NDC transactions as a result of these authorities, and recommendations for updating guidance and procedures to improve the use of this authority.

Procurement Technical Assistance Centers

The committee is aware of and supports plans by the Department of Defense (DOD) Office of Small Business Programs (OSBP) to utilize the Procurement Technical Assistance Program (PTAP) and its Procurement Technical Assistance Centers (PTACs) in new and innovative ways following the PTAP move from the Defense Logistics Agency (DLA) to the Office of the Under Secretary of Defense for Acquisition and Sustainment (OUSD(A&S)), in compliance with section 852 of the National Defense Authorization Act for Fiscal Year 2020 (Public Law 116-92). The committee is also aware that DOD is currently working on its small business strategy, which will focus on bringing new entrants into the defense industrial base and provide opportunities to translate those new approaches into reality. The committee supports the PTAP and believes PTACs provide critical assistance to small businesses within the defense industrial base to help navigate Government contracting. PTACs can be critical enablers to opening the defense industrial base to small, non-traditional companies who are on the forefront of innovation.

The committee believes the Department can utilize PTACs even more effectively by facilitating small business cybersecurity training and foreign ownership, control, and influence (FOCI) training, conducting market research and commercial due diligence for the Department, and sharing data between small businesses and the Department. PTACs can help ensure small businesses are aware of and facilitate training of DOD's cybersecurity requirements, including the Cybersecurity Maturity Model Certification 2.0 framework. This is an important effort to provide small businesses the cybersecurity tools they need to protect against cyber threats, which can be a barrier for entry into working with the Department for small businesses. Additionally, education is useful tool for combatting foreign influence that leads to economic espionage and unauthorized technology transfer to non-allied foreign nations. PTACs can be

utilized to aid in the training and education of small businesses on the risks they face and how to mitigate them, as well as supporting commercial due diligence reviews as part of the market research process.

The committee also supports enabling the DOD OSBP to leverage PTACs to conduct targeted market research and assistance efforts to support specific acquisitions per the action plan developed in response to President Biden's Executive Order 14017, titled "Securing Defense-Critical Supply Chains," released on February 24, 2021. This includes having PTACs survey small businesses to identify companies to participate in opportunities under the Defense Production Act of 1950 (Public Law 81-774). The committee is supportive of this effort and others, like sharing data on small business participation in other transaction authority and consortia-based contracts, to better connect the DOD's acquisition community to small businesses. The committee recognizes that enabling these new modes of operation will likely require additional data systems to connect the PTACs together, as well as information pipelines and linkages with existing DOD information systems to seamlessly move data, improve senior level decision making, and also to experiment with new artificial intelligence/machine learning and data analytics tools that are not currently available to this workforce.

Therefore, the committee directs the USD(A&S) and the Director, OSBP, to provide a briefing to the Committees on Armed Services of the Senate and the House of Representatives, not later than February 1, 2023, on the DOD's small business strategy including OSBP's efforts to use PTACs to facilitate cybersecurity and FOCI training, market research, and data sharing within the small business community, and what additional steps should be taken to help small businesses enter the defense industrial base.

Reimbursement of withdrawal liability

The committee is aware that small businesses assume a number of risks in balancing the complex requirements of defense regulation, including broader workforce and financial protections provisions. For example, maintaining a multi-employer pension plan entails a set of obligations that links liability for unfunded vested benefits to contract periods of performance. The Multi-Employer Pension Plan Amendment Act (Public Law 96-364) imposes this liability on employers who withdraw from these plans, however, there is a high degree of uncertainty of the actual amount of the liability to be paid. That liability is not calculated until the end of a contract,

but from a planning perspective can be affected by contract bridges, extension, or cancellations. The insurance industry does not offer policies to mitigate the impact of prospective withdrawal liability, nor do contracting agencies treat these as allowable or reimbursable expenses.

To better understand the implications of these policies, the committee directs the Undersecretary of Defense for Acquisition and Sustainment and the Department of Defense General Counsel to review current policies and practices with regards to the reimbursement of withdrawal liability costs to defense contractors and to provide a briefing to the Committees on Armed Services of the Senate and House of Representatives not later than April 1, 2023. This briefing shall describe current policies, procedures, and the potential risks to the participation, health, and competitiveness of those small businesses working for the Department of Defense, as well as any recommended changes that might be beneficial to help support the small business industrial base.

Sensor Open System Architecture alignment with NATO allies

The committee commends the Department of Defense (DOD), industry, and academia for its ongoing efforts to support Modular Open Systems Architectures (MOSA) and specifically commends the collaboration that enabled the Sensor Open System Architecture (SOSA) Consortium to release SOSA Technical Standard 1.0 in Fall 2021. This standard, and its alignment with other standards such as the Army's Command, Control, Communications, Computers, Cyber, Intelligence, Surveillance, and Reconnaissance Modular Open Suite of Standards, will enable greater reuse, faster upgrades, increased competition and lower acquisition costs while still providing for fielding of state-of-the-art components to support a competitive sensor-effectuator edge.

Over the last year the SOSA standard has been proven to provide the Department of Defense with the ability to circumvent industry supply chain issues, down to the semiconductor level, by allowing services to rapidly field similar capabilities in a platform using dissimilar components. This type of effect portability will provide the DOD the ability to overcome supply chain issues that are intentionally caused in a global conflict and will also allow the Department to undertake swift integration for fast fielding at speeds shown necessary by Russia's war on Ukraine.

However, the committee remains concerned that the Air Force is not forecasting sufficient long-term mission funding to support future SOSA activities in general and, more

specifically, for the challenging work to engage NATO partners in the area of SOSA interoperability. The interoperability and portability enabled by SOSA conformant hardware and software components are the most basic and functional building blocks for Joint All Domain Command and Control (JADC2) functionality. This potential interoperability and portability have a significantly increased value in the current moment as NATO and non-NATO allies in Europe increase defense spending, recapitalize spectrum management equipment, and divest Russian-aligned equipment in favor of NATO-compliant systems. Should the Air Force continue to underfund its own SOSA development and engagement efforts, the inevitable result will be missing the window where an internationally viable SOSA standard will facilitate JADC2 interoperability among allies and instead lead to a future of significant cost overruns as the service substitutes organic, bottom-up integration and interoperability with vast expenditures on purchased capability.

Therefore, the committee encourages the Air Force to consider establishing a SOSA Engagement Office that would support SOSA alignment with NATO allies.

Small business intellectual property

The committee recognizes that the Advanced Battlefield Management System Program is a top modernization priority for the Air Force and will be the backbone of a network centered approach in partnership with all the services across the Department of Defense. When fully realized, the broader effort for Joint All Domain Command and Control will allow U.S. forces from all services to receive, fuse, and act upon a vast array of data and information in all domains at the speed of relevance. The committee recognizes that balancing the needs for integration of multiple legacy and new capabilities across networks and platforms will require tradeoffs between enhanced capability and interoperability in order for the Department of Defense to achieve its desired end state. However, the committee understands that the Air Force's objectives and requirements as they relate to the results of these demonstrations, especially with regards to the work products developed by demonstration participants, were not clearly articulated, resulting in confusion and ill feelings. The committee believes that such situations create negative incentives for participation by small business and non-traditional contractors, which is contrary to the direction of the Department to increase competition and the overall pool of national security technology providers.

The committee recommends the Air Force more clearly articulate the benefits and obligations for demonstration

participants, especially with regards to any development work or work output as a result. The committee believes that the Department will need to be judicious in its demands to participation, especially for things that may result in new intellectual property for the participants. In doing so, the Department needs to be abundantly clear to offerors so as not to waste time or resources, as well as leverage the resources and brainpower of the Intellectual Property Cadre within the Office of the Under Secretary of Acquisition and Sustainment when necessary to help inform those tradeoffs.

Software supply chain risk management

The committee is concerned about the provenance of certain software used by the Department of Defense and seeks to ensure that the Department does not use software from adversary foreign countries, including: the People's Republic of China, Russian Federation, Democratic People's Republic of Korea, Bolivarian Republic of Venezuela, Republic of Cuba, and Islamic Republic of Iran. Adversary foreign nations may seek to exploit the supply chains on which the Department relies, especially for those frequent instances in which software is composed in part of code borrowed or reused from other sources. To help secure these supply chains, the committee believes the Department needs additional data to identify and track foreign sources of software used by the Department, including an assessment of potential security issues posed by software currently in use by the Department.

Therefore, not later than January 31, 2023, the Under Secretary of Defense for Acquisition and Sustainment, in consultation with the Chief Information Officer of the Department, shall submit to the Committees on Armed Services of the Senate and the House of Representatives a review of the Department's software acquisition strategy to address its potential vulnerabilities, including how it identifies and verifies the provenance and security of code, tracks and remediates identified vulnerabilities, and mitigates risk overall to the Department's code base, both commercial and open source.

This report shall include an assessment of the Department's software that is produced in a foreign country, including: (1) An assessment of any contractor or subcontractor from any adversary foreign country listed above who in whole or in part produced software that has been acquired by the Department; (2) An assessment of any contractor or subcontractor who in whole or in part produced software that has been acquired by the Department that is majority owned by an entity or

government from an adversary foreign country listed above; and (3) An assessment of current security concerns regarding software currently in use by the Department. This assessment shall include use of vendor internal controls and/or a third-party certification inventories, software component analysis (e.g., software bill of materials), hardware component analysis (e.g., hardware bill of materials), hardware or software geopolitical affiliations mapping, component counterfeit analysis, and component obsolescence analysis.

Workforce Development for Defense Finance and Accounting Service Personnel

The committee is aware that rapid advancements in automation throughout the Defense Finance Accounting Service (DFAS) are resulting in increased need for additional training and education to support the workforce. In some cases, that is to accommodate additional skills development to prepare the workforce for dealing with new technology and processes, but in certain cases that also entails workforce reskilling to retrain DFAS workers that are currently being either partially or fully displaced. However, to date, the committee is not aware that such a workforce development initiative to upskill and reskill DFAS personnel has been put into place.

The committee recognizes that the human capital within the DFAS workforce is a valuable resource, for both the current capabilities and experience they provide, as well as the ability to leverage those capabilities and experiences to evolve the organization to face the future environment. Therefore, the committee directs the Director of DFAS to provide a briefing to the congressional defense committees, not later than January 15, 2023, on its plan for workforce development training over the next 5 years. Such a plan shall include: (1) Skills development needs over this time period to prepare the workforce for future technology needs; (2) Identification of any workforce being partially or fully displaced by adoption of process automation; (3) Identification of reskilling training opportunities for such displaced workforce; (4) Establishment of measures of effectiveness for such activities, including for cost effectiveness and avoidance; and (5) Any other items the Director considers appropriate.

TITLE IX—DEPARTMENT OF DEFENSE ORGANIZATION AND MANAGEMENT

SUBTITLE A—OFFICE OF THE SECRETARY OF DEFENSE AND RELATED MATTERS

Increase in authorized number of Assistant and Deputy Assistant Secretaries of Defense (sec. 901)

The committee recommends a provision that would create the position of the Assistant Secretary of Defense for Cyber Policy. The provision would also modify section 138 of title 10, United States Code, in order to increase the number of Assistant Secretaries of Defense to 18, the number of Deputy Assistant Secretaries of Defense to 57, and to make some technical and conforming edits.

The principal duty of the Assistant Secretary of Defense for Cyber Policy would be the overall supervision of policy and matters relating to cyber activities of the Department of Defense. The Assistant Secretary would also serve as the Principal Cyber Advisor to the Secretary of Defense. The committee is concerned that the current arrangement of cyber policy as part of the Assistant Secretary of Defense for Space Policy does not provide adequate support to posture the Department to respond to the dynamic and growing cyber threats posed by malicious cyber actors. Establishing a dedicated Assistant Secretary of Defense for Cyber Policy will allow the Assistant Secretary of Defense for Cyber Policy to focus on implementation of the Department of Defense Cyber Strategy and on conducting oversight of U.S. Cyber Command.

For the two additional unspecified Assistant Secretary positions authorized by this provision, the committee expects the Department to use them for the Under Secretary of Defense for Research and Engineering. The committee is cautious about specifying positions more than is essential in order to help reduce the number of statutorily specified positions to the lowest number required.

Conforming amendments relating to repeal of position of Chief Management Officer (sec. 902)

The committee recommends a provision that would amend section 2222 of title 10, United States Code, to make the Chief Information Officer of the Department of Defense (DOD) responsible for management oversight for defense business systems, including for certification of such systems and development and upkeep for the business enterprise architecture. Those responsibilities were formerly carried out by the DOD Chief Management Officer (CMO), which was formally

disestablished as a separate position. While the Deputy Secretary of Defense has been assigned the title of CMO, the committee believes these tasks are better aligned to the CIO functions, leaving the CMO room to focus on the function needs for business systems rather than the technical requirements oversight.

Limitation on availability of funds for operation and maintenance for Office of Secretary of Defense (sec. 903)

The committee recommends a provision that would limit the amount available to be obligated or expended for operation and maintenance, Defense-wide, for the Office of the Secretary of Defense to not more than 75 percent of the amount authorized by this Act until 15 days after the Secretary of Defense submits the information operations strategy and posture review to the Committees on Armed Services of the Senate and the House of Representatives as required by section 1631(g) of the National Defense Authorization Act for Fiscal Year 2020 (Public Law 116-92).

Limitation on use of funds until demonstration of product to identify, task, and manage congressional reporting requirements (sec. 904)

The committee recommends a provision that would limit certain funds from obligation or expenditure until the Department of Defense demonstrates a minimum viable product of a modernized software tool for managing congressionally required reports aligned with the processes described in section 908 of the William M. (Mac) Thornberry National Defense Authorization Act for Fiscal Year 2021 (Public Law 116-283).

The committee is severely disappointed in the lack of progress made by the Department of Defense (DOD) over 3 years of mutual effort to fix the significant problems in the Department's management of congressionally required reports. The committee notes that it has provided to the DOD detailed report data in a standardized Excel-based format with mutually agreed-upon data elements, including manually generated unique item identifiers for each report. This process, undertaken by the committee at no small effort, enables ingestion by the DOD of congressionally required reports in a matter of minutes with a high level of accuracy.

Despite this effort, the DOD has yet to demonstrate a modernized version of its software system, the Congressional Hearings and Reporting Requirements Tracking System (CHARRTS). This modernized system should significantly streamline

assignment, tracking, and management of reports for the Department of Defense and enable committee users to log in to view report status and manage reports. This simple fix could drastically improve the DOD's management of congressionally required reports, benefitting both the Congress and the Department of Defense.

Limitation on use of funds until Department of Defense complies with requirements relating to alignment of Close Combat Lethality Task Force (sec. 905)

The committee recommends a provision that would limit the obligation or expenditure of operation and maintenance funding made available for the Office of the Secretary of Defense to not more than 75 percent until the Department complies with section 911 of the National Defense Authorization Act for Fiscal Year 2022 (Public Law 117-81), relating to alignment of the Close Combat Lethality Task Force. The committee notes that the Department has neither aligned the task force as required by law nor provided the specified report that would permit alternative alignment of the task force.

SUBTITLE B—OTHER DEPARTMENT OF DEFENSE ORGANIZATION AND MANAGEMENT MATTERS

Modification of requirements that are responsibility of Armed Forces not Joint Requirements Oversight Council (sec. 911)

The committee recommends a provision that would clarify which officials within the Department of Defense are responsible for modifying the requirements that are the responsibility of Armed Forces, to include establishing certain inventory objective requirements for such Armed Force.

Briefing on revisions to Unified Command Plan (sec. 912)

The committee recommends a provision that would require a briefing to the congressional defense committees within 60 days of establishing a new combatant command or significantly revising the missions, responsibilities, or force structure of an existing combatant command.

The committee has not received clear information from the Department of Defense on what has been transferred from U.S. Strategic Command with respect to sensors for space domain awareness or on transferring the missile defense program from U.S. Strategic Command to U.S. Space Command.

Updates to management reform framework (sec. 913)

The committee recommends a provision that would modify section 125a of title 10, United States Code, to make updates to the management reform framework for the Department of Defense, such as an extension of the deadline for issuance of policy guidance, inclusion of the Director for Administration and Management in organizations to be consulted, and inclusion of several new elements for reform. The committee is concerned that management reform within the Department is not as high a priority as it should be. The committee encourages the Department to leverage this framework as a key tool to refocus and reenergize management reform as an overall priority for the Department in order to improve efficiency, speed, and cost savings necessary to maintain the Department's competitiveness with current and future adversaries.

Strategic management dashboard demonstration (sec. 914)

The committee recommends a provision that would require the Secretary of Defense to conduct a demonstration of a strategic management dashboard to automate the data collection and visualization of the primary management goals of the Department of Defense. The committee recognizes that the disestablishment of the Chief Management Officer within the Department has placed management reform in the Department back under the Deputy Secretary of Defense's purview, with specific functions moving to the Director, Administration and Management, and the Undersecretary of Defense (Comptroller). The purview of the Deputy Secretary is already broad, but the committee believes that management reform within the Department should be a much higher priority than it appears to be currently. The committee encourages the Department to leverage this demonstration to refocus and reenergize management reform as an overall priority for the Department in order to improve efficiency, speed, and cost savings necessary to maintain the Department's competitiveness with current and future adversaries.

Demonstration program for component content management systems (sec. 915)

The committee recommends a provision that would require the Chief Information Officer (CIO) to complete a demonstration program to migrate a select data set to a modern component content management system to help reduce the time, labor, and

cost involved in manually updating Department of Defense (DOD) documents.

The committee notes that the Joint Artificial Intelligence Center developed an artificial intelligence-enabled tool, GAMECHANGER, to make sense of the byzantine and labyrinthine ecosystem of Department guidance. GAMECHANGER essentially helps DOD policymakers find individual documents in this ecosystem.

The committee believes that in order to improve the efficiency of the bureaucracy within the Department, it must find a solution to the problem of unorganized, disorganized, disconnected, and conflicting guidance on the front end in a more automated fashion by moving to component content management systems, which are currently standard practice for many mid-size businesses. A component content management system assigns unique identifiers to each component or paragraph of content, allowing for enterprise-wide instant updates, near limitless linking of content, and the ability to catalog changes over time. For instance, removing "Chief Management Officer" from Department of Defense guidance will likely take years, whereas a component content management system would enable this update within minutes.

The committee believes that inefficient processes represent a major source of waste at the Department, and the return on investment for moving to component content management systems could be significant multiples of the initial U.S. Government investment. Therefore, the committee directs the CIO to provide a briefing to the committee, not later than December 1, 2022, about the applicability of component content management systems to DOD data.

SUBTITLE C—SPACE FORCE MATTERS

Vice Chief of Space Operations (sec. 921)

The committee recommends a provision that would amend chapter 908 of title 10, United States Code, to authorize a Vice Chief of Space Operations at the grade of general within the U.S. Space Force.

Establishment of field operating agencies and direct reporting units of Space Force (sec. 922)

The committee recommends a provision that would allow the Secretary of the Air Force to establish an Enterprise Talent Management Office as a field operating agency of the headquarters of the U.S. Space Force, and a Space Analysis

Warfighting Center as a direct reporting unit of the Chief of Space Operations.

Framework for new subtitle F of title 10, United States Code, on Space Component (sec. 923)

The committee recommends a provision that would add a new subtitle F to title 10, United States Code, for the organization of the Space Component. Such subtitle would be repealed automatically if not amended by December 31, 2026.

Study of proposed Space Force reorganization (sec. 924)

The committee recommends a provision that would require the Secretary of Defense to seek to enter into a contract with one or more federally funded research and development centers to conduct a study on the proposed reorganization of the Space Force and the establishment of the space component. The Secretary would be required to submit to the Committees on Armed Services of the Senate and the House of Representatives a report on such study not later than December 31, 2023.

TITLE X—GENERAL PROVISIONS

SUBTITLE A—FINANCIAL MATTERS

General transfer authority (sec. 1001)

The committee recommends a provision that would allow the Secretary of Defense to transfer up to \$6.0 billion of fiscal year 2023 funds authorized in division A of this Act to unforeseen higher priority needs in accordance with normal reprogramming procedures. Transfers of funds between military personnel authorizations would not be counted toward the dollar limitation in this provision.

Report on budgetary effects of inflation (sec. 1002)

The committee recommends a provision that would require the Secretary of Defense to deliver additional details on the budgetary effects of inflation with the annual submission of the President's budget request. Additionally, the provision would require a briefing to update the congressional defense committees after the Department of Defense's mid-year review.

The committee notes that the Department of Defense possesses few tools with which to anticipate or respond to

inflationary effects. The committee encourages the Department of Defense to expand its use of data analysis to track and manage inflationary effects, including through additional collaboration with the defense industry and other stakeholders. The committee urges the Department to take a proactive approach in accommodating inflationary effects to avoid unintended decreases in buying power and a degradation of programmatic oversight over time.

SUBTITLE B—COUNTERDRUG ACTIVITIES

Extension of authority and annual report on unified counterdrug and counterterrorism campaign in Colombia (sec. 1011)

The committee recommends a provision that would extend, through fiscal year 2024, the authority under section 1021 of the Ronald W. Reagan National Defense Authorization Act for Fiscal Year 2005 (Public Law 108-375), as most recently amended by section 1007 of the National Defense Authorization Act for Fiscal Year 2022 (Public Law 117-81), to support Colombia's unified counterdrug and counterterrorism campaign and to add an annual report for fiscal years 2023 and 2024.

SUBTITLE C—NAVAL VESSELS

Modification to annual naval vessel construction plan (sec. 1021)

The committee recommends a provision that would amend section 231 of title 10, United States Code, to require a detailed transition plan for any battle force ship class in which the class's last ship would be procured in the future years defense program.

Amphibious warship force structure (sec. 1022)

The committee recommends a provision that would amend section 8062 of title 10, United States Code, to require that the naval combat force should include not less than 31 operational amphibious warfare ships, of which not less than 10 should be amphibious assault ships, and make other related changes.

Modification to limitation on decommissioning or inactivating a battle force ship before the end of expected service life (sec. 1023)

The committee recommends a provision that would modify the limitation on decommissioning or inactivating a battle force ship before the end of expected service life in section 8678a of title 10, United States Code, by adjusting the certification requirement to align with budget request submissions.

Contract requirements relating to maintenance and modernization availabilities for certain naval vessels (sec. 1024)

The committee recommends a provision that would stipulate certain requirements for fast attack submarine and surface ship maintenance and modernization availabilities.

The committee believes that contracting with a private sector shipyard for fast attack submarine maintenance and modernization availabilities that require drydocking should be limited to the newest *Virginia*-class submarines with as repeatable a scope of work as possible in order to improve cost and schedule outcomes, as well as provide greater stability, predictability, and learning in the industrial base.

The committee is concerned that lowest price technically acceptable and other Navy ship repair contracting strategies that heavily weight proposal price as an evaluation factor have led to poor outcomes in surface ship maintenance and modernization availabilities.

Prohibition on retirement of certain naval vessels (sec. 1025)

The committee recommends a provision that would prohibit the retirement of certain naval vessels in fiscal year 2023.

The committee notes the budget request proposed to decommission 24 battle force ships in fiscal year 2023, which represents 8 percent of the Navy's 298 ship battle force. Of these 24 ships, 8 ships are at or beyond their expected service life (ESL) and 16 ships would be retired prior to ESL. The average service life remaining in the early retirements is 16 years.

The committee is concerned that retiring battle force ships prior to ESL would result in unacceptable risk to meeting fleet commanders' near- and mid-term requirements. Furthermore, the committee believes replacing these vessels would not occur quickly or affordably with the average replacement unit cost for these 16 vessels exceeding \$1.0 billion.

The budget request proposed retiring five *Ticonderoga*-class cruisers over the next 5 years, including one cruiser in fiscal year 2023, which will complete extended modernization periods in fiscal year 2023 or 2024. The committee finds this unacceptable. The committee understands each of these ships has

received in excess of \$500.0 million to complete the current modernization period, with a total of \$3.0 billion obligated on these ships through September 30, 2021. Work completed on these modernizations ranges from 57 percent to 93 percent. The Navy estimates that \$407.0 million in total additional funding is required to complete the modernization of these ships and return all five to the fleet. The committee also notes previous Navy officials have testified that this extended modernization program would result in some of the most capable surface combatants in the Navy, with an extended 40-year service life.

Accordingly, consistent with several years of Navy plans and budget requests, as well as congressional authorizations and appropriations, the committee believes the Navy should complete the extended modernization program on each of these five cruisers, return the ships to service and achieve a 40-year service life. Moreover, it is unclear to the committee how the Navy's more ambitious near-term modernization plans for destroyers, including back fitting a SPY-6 radar and installing a larger electronic warfare system, could succeed if the Navy cannot manage the cruiser phased modernization program.

Overall, the committee recommends retaining 12 of the 16 ships proposed for divestment prior to ESL to better support the National Defense Strategy, enable additional capability development and experimentation, and be better positioned to realize the policy of the United States to achieve a 355-ship Navy as soon as practicable.

The committee urges the Secretary of the Navy to pursue Excess Defense Article transfers to allies and partners, as well as other actions he may deem appropriate, to continue use of any appropriate vessels retired prior to or after ESL.

SUBTITLE D—COUNTERTERRORISM

Modification and extension of prohibition on use of funds for transfer or release of individuals detained at United States Naval Station, Guantanamo Bay, Cuba, to certain countries (sec. 1031)

The committee recommends a provision that would extend through December 31, 2023, the prohibition on the use of funds provided to the Department of Defense to transfer or release individuals detained at United States Naval Station, Guantanamo Bay, Cuba, to Libya, Somalia, Syria, Yemen, and Afghanistan.

Extension of prohibition on use of funds for transfer or release of individuals detained at United States Naval Station, Guantanamo Bay, Cuba, to the United States (sec. 1032)

The committee recommends a provision that would extend through December 31, 2023, the prohibition on the use of funds provided to the Department of Defense to transfer or release individuals detained at United States Naval Station, Guantanamo Bay, Cuba, to the United States.

Extension of prohibition on use of funds to construct or modify facilities in the United States to house detainees transferred from United States Naval Station, Guantanamo Bay, Cuba (sec. 1033)

The committee recommends a provision that would extend, until December 31, 2023, the prohibition on the use of funds provided to the Department of Defense to construct or modify facilities in the United States to house detainees transferred from United States Naval Station, Guantanamo Bay, Cuba.

Extension of prohibition on use of funds to close or relinquish control of United States Naval Station, Guantanamo Bay, Cuba (sec. 1034)

The committee recommends a provision that would extend through the end of fiscal year 2023 the prohibition on the use of funds provided to the Department of Defense to: (1) Close or abandon United States Naval Station, Guantanamo Bay, Cuba; (2) Relinquish control of Guantanamo Bay to the Republic of Cuba; or (3) Implement a material modification to the Treaty between the United States of America and Cuba, signed at Washington, D.C., on May 29, 1934, which modification would constructively close United States Naval Station, Guantanamo Bay, Cuba.

SUBTITLE E—MISCELLANEOUS AUTHORITIES AND LIMITATIONS

Department of Defense-Department of Veterans Affairs Discharge Review Board Committee (sec. 1041)

The committee recommends a provision that would establish a Department of Defense-Department of Veterans Affairs Discharge Review Board Committee to advise the Under Secretary of Defense for Personnel and Readiness and the Deputy Secretary of Veterans Affairs on matters relating to the review boards under section 1553 of title 10, United States Code.

Modification of provisions relating to cross-functional team for emerging threat relating to anomalous health incidents (sec. 1042)

The committee recommends a provision that would clarify the responsibilities of the Department of Defense cross-functional team (CFT) for emerging threats relating to anomalous health incidents (AHIs) authorized by the National Defense Authorization Act for Fiscal Year 2022 (Public Law 117-81).

The committee remains concerned by the persistent threat posed by AHIs to U.S. Government personnel and their families. Over the past year, the Department of Defense and other elements of the Federal Government have taken important steps to improve the U.S. response to these threats. However, more work is needed to uncover the cause of these incidents and ensure appropriate care is provided to those impacted by these directed energy attacks. The committee believes the Department of Defense's cross-functional team for AHIs has a critical role to play in attributing, mitigating, and responding to threats from AHIs, while ensuring adequate care for those affected.

Therefore, the committee directs the Under Secretary of Defense for Policy, as the lead for the CFT for AHIs, to provide the congressional defense committees a classified report, not later than December 1, 2022, regarding AHIs. At a minimum, the required report shall include:

- (1) A history of AHIs recorded by the Department of Defense;
- (2) A description of U.S. and adversary research efforts related to technologies that could cause AHIs;
- (3) Recommendations of the AHI CFT for adapting the U.S. military to the threat posed by AHIs; and
- (4) Any other matters deemed relevant by the Under Secretary.

Civilian casualty prevention, mitigation, and response (sec. 1043)

The committee recommends a provision that would require the Secretary of Defense to establish an office within the Department of Defense to serve as the focal point for matters related to civilian casualties and other forms of civilian harm resulting from military operations involving United States Armed Forces.

The committee believes that protection of civilians and civilian objects during military operations is a moral and ethical imperative and commends the Department of Defense for the efforts it is implementing under the Civilian Harm

Mitigation and Response Action Plan to prevent, mitigate, track, investigate, learn from, respond to, and report civilian casualties resulting from U.S. military operations. The committee notes that the recommended provision is supportive of Secretary Austin's January 27, 2022, commitment to "establish a civilian protection center of excellence to better expedite and institutionalize the advancement of our knowledge, practices, and tools for preventing, mitigating, and responding to civilian harm" and complementary to section 936 of the John S. McCain National Defense Authorization Act for Fiscal Year 2019 (Public Law 115-232) requiring the promulgation of a Department-wide policy for civilian casualty matters and the designation of a senior civilian official to develop, coordinate, and oversee compliance with such a policy. While long overdue, the committee looks forward to receiving the forthcoming Department of Defense Instruction on Civilian Harm Mitigation and Response that is responsive to section 936 of Public Law 115-232.

The committee notes that civilian casualties are a tragic and unavoidable part of war and commends the Department of Defense for its efforts to maintain mission effectiveness while complying with the international law of armed conflict and the laws of the United States, including the principles of distinction, proportionality, and the requirement to take feasible precautions in planning and conducting operations to reduce the risk of harm to civilians and civilian objects. The committee believes strongly that the Department's efforts to mitigate civilian harm stand in stark contrast to those of certain state and non-state actors, to include Russia, that have demonstrated a wanton disregard for civilian safety during military operations.

Prohibition on delegation of authority to designate foreign partner forces as eligible for the provision of collective self-defense support by United States Armed Forces (sec. 1044)

The committee recommends a provision that would prohibit the Secretary of Defense from delegating the authority to designate foreign partner forces as eligible for the provision of collective self-defense support by U.S. Armed Forces. The committee notes that this provision is not intended to affect the lawful provision of collective self-defense support by the U.S. Armed Forces after the Secretary of Defense has designated foreign partner forces as eligible for such support.

Personnel supporting the Office of the Assistant Secretary of Defense for Special Operations and Low Intensity Conflict (sec. 1045)

The committee recommends a provision that would require the Secretary of Defense, not later than 90 days after the date of the enactment of this Act, to provide the congressional defense committees a plan for adequately staffing the Office of the Assistant Secretary of Defense for Special Operations and Low Intensity Conflict (ASD SOLIC) to fulfill the office's responsibility for exercising authority, direction, and control of all special-operations peculiar administrative matters relating to the organization, training, and equipping of special operations forces.

The committee strongly supports efforts by the Department of Defense to institutionalize the role of the ASD SOLIC in exercising authority, direction, and control of all special-operations peculiar administrative matters relating to the organization, training, and equipping of special operations forces. These actions include the issuance of written Department guidance and the inclusion of the ASD SOLIC in appropriate leadership decision making fora. However, the committee remains concerned that the number and expertise of the personnel assigned to supporting the ASD SOLIC's "service secretary-like" responsibilities continues to fall short of what is required to meet congressional intent. The committee believes hiring efforts should be prioritized and accelerated and stands ready to support additional resources, as necessary, to facilitate a fully-staffed ASD SOLIC.

Additionally, the committee directs the Comptroller General of the United States to conduct a review of Department of Defense efforts to implement section 922 of the National Defense Authorization Act for Fiscal Year 2017 (Public Law 114-328), as amended, and provide an update to the Government Accountability Office (GAO) report published May 13, 2019, titled "Special Operations Forces: Additional Actions Are Needed to Effectively Expand Management Oversight" (GAO-19-386), including any recommendations for fully implementing the SOLIC reforms. The committee further directs the Comptroller General to provide a briefing to the committee on the results of the review, not later than December 1, 2022, and issue a report to follow at a time agreed to subsequent to the briefing.

Joint all domain command and control (sec. 1046)

The committee recommends a provision that would require control of the cross-functional team tasked with joint all domain command and control (JADC2) to remain under the direction of the Director, Command, Control, Communications and Computers/Cyber and Chief Information Officer of the Joint Chiefs of Staff (J6). The provision would also require mission-

critical effects chains and an implementation plan for the establishment of a joint force headquarters to serve as the operational command for certain JADC2 and related capabilities, functions, missions, and tasks, with the headquarters to be established not later than October 1, 2024.

The committee believes successful implementation of JADC2 requires constant, long-term attention of the Deputy Secretary of Defense and the Vice Chairman of the Joint Chiefs of Staff, with the support of the Joint Requirements Oversight Council, and commends them for their leadership on this issue. However, it will take years to achieve universal common data standards and system interfaces across the Department of Defense (DOD) to support JADC2. Therefore, it is critical that the Department enable interoperability and joint operations across domains, services, and systems by emphasizing experimentation and demonstration of novel kill chains that do not currently share common standards.

The committee believes that rigorous demonstrations of novel mission threads and kill chains can increase capability, enhance deterrence, and inform the future years defense program. The Department has endorsed near-term campaigns of experimentation and demonstrations of complex kill chains in the JADC2 implementation plan, but the budget has failed to adequately resource such efforts. In addition, while the military services are conducting experiments, demonstrations, and exercises of kill chains under their service-specific versions of JADC2, the committee is concerned that these service-led activities will not provide multiple options for joint all-domain operations given that no single service is responsible for joint command and control, or for creating and deploying cross-service and cross-agency end-to-end targeting processes and procedures for combatant commanders.

As a result, given the historical resistance of the services to implementing enterprise-wide jointness and interoperability standards, mandating experimentation and exercises is likely the only way to develop doctrine, standard operating procedures, and operational concepts for decentralized, distributed, cooperative, real-time targeting across services, platforms, and multiple command echelons. Therefore, this provision requires the DOD to design and demonstrate kinetic and non-kinetic effects chains to solve mission-critical operational challenges specific to the U.S. Indo-Pacific Command (INDOPACOM) area of operations.

Furthermore, this provision would require the Secretary of Defense to designate the Strategic Capabilities Office (SCO) as the primary organization for developing, demonstrating, and transitioning the kinetic and non-kinetic effects chains. The

committee believes the SCO is the most appropriate organization for this effort given it has led, since its establishment, the DOD in conceiving and engineering novel kill chains that cross services, domains, and systems, and it is chartered to support combatant commanders' needs for joint solutions. This provision would also require that the Family of Integrated Targeting Cells, which includes the Army's Tactical Intelligence Targeting Access Node and the Navy's Maritime Targeting Cell, be integrated into the JADC2 effects chains demonstrations as they provide an excellent foundation for distributed, survivable, responsive, and interoperable joint intelligence collection, processing, fusion, and dissemination nodes for JADC2.

The provision would also require demonstrations of effects chains in INDOPACOM exercises to include the XVIIIth Airborne Corps Scarlet Dragon exercise series that tests artificial intelligence-aided targeting as well as with the Maven Smart System. Similarly, the provision would require sustainment of, and INDOPACOM and JADC2 participation in, the Global Information Dominance Experiment exercises conducted by U.S. Northern Command.

Finally, the provision would require the establishment of a Joint Force Headquarters under the Commander, U.S. INDOPACOM, to conduct the required joint all domain effects chain and command and control experiments, exercises, and demonstrations, as well as the transition of demonstrated capabilities to operational status. The committee is concerned that there is no joint entity currently capable of serving as an operational transition partner for JADC2 or the Assault Breaker II capabilities under development by the Defense Advanced Research Projects Agency.

With few exceptions, Joint Force Headquarters do not exist within the combatant commands, even though combatant commanders have the legal authority to establish them and, by doctrine, they are required for command of large-scale joint operations. If a crisis arises with a strategic competitor, the committee is concerned that there will be insufficient time to establish a new Joint Force Headquarters, which may be viewed as an escalatory action by a potential adversary. The committee believes that a standing operational Joint Force Headquarters in INDOPACOM can support campaigning and exercise activities in competition, while also being capable of commanding and controlling joint operations in a conflict.

The Joint Force Headquarters in INDOPACOM would be responsible for managing command and control of the most important joint all domain effects chains for the most critical missions. Part of this responsibility would be to ensure that these effects chains can be executed through decentralized,

distributed, resilient mission command elements and procedures. While the committee expects the Commander, INDOPACOM, and subordinate commands to provide support to the Joint Force Headquarters, the committee does not intend for the Joint Force Headquarters to detract significantly from the personnel and resourcing of such elements. The committee recognizes the operational and organizational demands facing INDOPACOM and expects the Commander, in establishing the joint force headquarters, to maintain the integrity of existing elements in the combatant command. The committee anticipates the Deputy Secretary of Defense and the Vice Chairman of the Joint Chiefs of Staff will be integral in ensuring the military services provide adequate support for the Joint Force Headquarters, including personnel from a range of existing billets, not just from the various commands within INDOPACOM, to balance existing requirements with the critical, novel missions of the Joint Force Headquarters.

Extension of admission to Guam or the Commonwealth of the Northern Mariana Islands for certain non-immigrant H-2B workers (sec. 1047)

The committee recommends a provision that would amend section 6(b)(1)(B) of the Joint Resolution titled "A Joint Resolution to approve the 'Covenant to Establish a Commonwealth of the Northern Mariana Islands in Political Union with the United States of America', and for other purposes" (48 U.S.C. 1806(b)(1)(B)), approved March 24, 1976, by extending the deadline for certain non-immigrant H-2B workers.

The committee notes that this provision would support the realignment of U.S. forces to Guam by addressing limited workforce availability on Guam. The committee understands that current labor market conditions are constrained by the H-2B 3-year service restriction waiver expiring in 2023 and that without this provision, construction costs for the Department of Defense are estimated to increase by at least \$250.0 million and the Marine relocations from Japan may be delayed.

Department of Defense support for civil authorities to address the illegal immigration crisis at the southwest border (sec. 1048)

The committee recommends a provision that would require the Under Secretary of Defense for Policy to provide quarterly briefings through December 31, 2024 to the Committee on Armed Services of the Senate and the Committee on Armed Services of the House of Representatives on the Department of Defense's

Support of Civil Authorities mission along the southwest border of the United States.

Department of Defense support for funerals and memorial events for Members and former Members of Congress (sec. 1049)

The committee recommends a provision that would amend chapter 3 of title 10, United States Code, to authorize the Secretary of Defense to provide support, including transportation support, for the funeral or related memorial events of a Member or former Member of Congress, when requested by the Speaker of the House of Representatives, the Minority Leader of the House of Representatives, the Majority Leader of the Senate, or the Minority Leader of the Senate.

Expansion of eligibility for direct acceptance of gifts by members of the Armed Forces and Department of Defense and Coast Guard employees and their families (sec. 1050)

The committee recommends a provision that would amend section 2601a of title 10, United States Code, to authorize servicemembers whose injury or illness results in enrollment in a Warriors in Transition program to accept gifts from nonprofit organizations, private parties, and other sources outside the Department of Defense or the Department of Homeland Security.

Technical amendments related to recently enacted Commissions (sec. 1051)

The committee recommends a provision that would make technical amendments to certain commissions enacted in the National Defense Authorization Act for Fiscal Year 2022 (Public Law 117-81).

SUBTITLE F—STUDIES AND REPORTS

Submission of National Defense Strategy in classified and unclassified form (sec. 1061)

The committee recommends a provision that would require the Secretary of Defense to present to the congressional defense committees an unclassified form of the National Defense Strategy (NDS) that is not a summary of the classified document.

When the Department of Defense (DOD) transmitted the 2022 NDS to Congress, it did not submit an unclassified summary as required by statute. Instead, the DOD provided a short,

unclassified fact sheet that summarized, in broad terms, the main priorities of the 2022 NDS. Therefore, the committee believes that mandating an unclassified form of the NDS will support its oversight duties.

Report on impact of certain ethics requirements on Department of Defense hiring, retention, and operations (sec. 1062)

The committee recommends a provision that would require the Secretary of Defense to seek to enter into an agreement with a federally funded research and development center to conduct a study assessing whether specified statutory ethics requirements unique to the Department of Defense (DOD) have had an impact on the hiring or retention of personnel at the DOD, particularly those with specialized experience and training.

Extension of certain reporting deadlines (sec. 1063)

The committee recommends a provision that would extend by 6 months the reporting deadlines for certain commissions enacted in the National Defense Authorization Act for Fiscal Year 2022 (Public Law 117-81).

SUBTITLE G—OTHER MATTERS

Annual risk assessment (sec. 1071)

The committee recommends a provision that would modify the annual unfunded priorities report to include a risk assessment submitted by the armed forces and combatant commands. Each risk assessment shall include an assessment of the risks associated with the most current National Military Strategy, any changes to the strategic environment, threats, objectives, force planning and size constructs, as well as other elements.

Joint Concept for Competing (sec. 1072)

The committee recommends a provision that would require, not later than 90 days after the date of the enactment of this Act, the Secretary of Defense to develop a Joint Concept for Competing for the Department of Defense.

Prioritization and acceleration of investments to attain threat matrix framework level 4 capability at training ranges supporting F-35 operations (sec. 1073)

The committee recommends a provision that would express the sense of the Senate that the Department of the Air Force should prioritize and accelerate investments to develop and upgrade one or more ranges to attain threat matrix framework level 4 capability, such as peer capability, not later than fiscal year 2026.

Modification of Arctic Security Initiative (sec. 1074)

The committee recommends a provision that would establish an Arctic Security Initiative.

Pilot program on safe storage of personally owned firearms (sec. 1075)

The committee recommends a provision that would require the Secretary of Defense to establish a 6-year pilot program at not fewer than five military installations to promote the safe storage of personally owned firearms. The Secretary would furnish either locking devices, firearm safes, or both to servicemembers who voluntarily participate in the program. The provision would require the Secretary to submit an implementation plan of the pilot program to the Committees on Armed Services of the Senate and the House of Representatives not later than 1 year after the date of the enactment of this Act. The Secretary would then submit a report to the congressional defense committees upon termination of the program. The committee believes that this pilot program will complement the ongoing suicide prevention efforts of the Department of Defense.

Sense of the Senate on redesignation of the Africa Center for Strategic Studies as the James M. Inhofe Center for Africa Strategic Studies (sec. 1076)

The committee recommends a provision that would express the sense of the Senate that the Africa Center for Strategic Studies should be renamed the James M. Inhofe Center for Africa Strategic Studies.

ITEMS OF SPECIAL INTEREST

Army Interagency Training and Education Center

The committee recognizes that the Army Interagency Training and Education Center (AITEC), a joint activity of the

Army and Air National Guard, provides a valuable training capability for homeland defense and civil support, to include:

(1) Providing the Department of Defense with civilian expertise and experience in critical infrastructure protection; chemical, biological, radiological, and nuclear response; emergency management, control systems cybersecurity, and incident management;

(2) Providing training and exercise support for the Joint Interagency Training Capability;

(3) Conducting Mission Assurance, Cybersecurity, Port Security and Resiliency, and other critical infrastructure assessments and training along with counter-improvised explosive device and bombing prevention training to intergovernmental partners and first responders; and

(4) In partnership with Federal, State, local, territorial, and Tribal response organizations, conducting all-threats, all-hazards mission assurance assessments and all hazards disaster response training and exercise support.

The committee notes AITEC's partnership with the Department of Homeland Security's Cybersecurity and Infrastructure Security Agency in offering mission assurance services to critical infrastructure owners and operators. As cyber incursions continue to proliferate, the committee believes that the AITEC may be well suited to assist across the interagency in addressing cyber threats to critical infrastructure. The committee encourages the Secretary of Defense to assess AITEC's potential for expanded mission capabilities, and if appropriate, provide additional resources and support.

Availability and architecture of Capitol Network

The committee notes that the Office of the Director of National Intelligence resources and operates the Capitol Network, or CapNet, to enable classified electronic communications and dissemination of products between executive branch legislative affairs offices and congressional staff, including the congressional defense committees. For example, the Assistant Secretary of Defense for Legislative Affairs relies on assured access to CapNet to satisfy a variety of statutory requirements for timely congressional notification, electronic delivery of reports, and provision of other classified information requested by the congressional defense committees.

The committee believes that access to timely classified electronic communications between the congressional defense committees and the Department of Defense is critical to the performance of the legislative oversight responsibilities of the

committees. The committee is frustrated that availability of CapNet accounts for the legislative affairs offices of the combatant commands and military services has been limited for years, challenging the ability of those offices to respond to the Congress in a timely manner.

Therefore, the committee directs the Under Secretary of Defense for Intelligence and Security, in consultation with the Director of National Intelligence, to provide a briefing to the congressional defense committees, not later than December 1, 2022, on a plan to grow CapNet to meet forecasted executive and legislative branch requirements. The briefing shall identify the cost impacts and technical resources required to deliver a CapNet scaled to meet all objective requirements, to include specific resources required to establish and assure robust user account access for the legislative affairs offices of the combatant commands and military services. Lastly, the briefing shall present options for evolved CapNet program management in the future.

Briefing on Biological Posture Review

The committee directs the Secretary of Defense, not later than 30 days after the completion of the Biological Posture Review, to provide a briefing to the congressional defense committees on a comprehensive review of the U.S. biological defense posture. In addition to developing a Department of Defense-wide strategy on biodefense, the committee encourages the Department of Defense (DOD) to consider the findings and recommendations identified in a Government Accountability Office (GAO) report published on February 28, 2022, titled "Biological Defense: Actions Needed to Strengthen DOD's Preparation for Responding to Emerging Threats" (GAO-22-104367SU).

Briefing on the treatment of financial institutions located on military installations

Department of Defense (DOD) policy treats credit unions and banks located on military installations differently. Credit unions are, as a matter of policy, allowed to operate on military installations without any requirement to reimburse the DOD for any facilities, utilities, or other expenses incurred by the DOD to support credit unions. Banks however, are required to pay the DOD in order to provide service to customers inside the gates of a military installation.

Therefore, the committee requests the Secretary of Defense to provide a briefing by March 1, 2023, to the committees on

Armed Services of the Senate and the House of Representatives that includes:

- (1) The legal requirements governing how the DOD handles financial institutions located on military installations;
- (2) A description of the services provided by credit unions and banks located on military installations;
- (3) An explanation of the policies pertaining to credit unions and banks that operate on military installations;
- (4) A justification for any differences in the DOD policies that relate to credit unions and banks located on military installations; and
- (5) Any other matters the Secretary considers relevant.

Comptroller General report on Department of Defense counterdrug and counter transnational criminal organizations operations

The recently issued National Drug Control Strategy notes that transnational criminal organizations (TCOs) abroad produce the majority of illicit drugs consumed in the United States. The strategy also states that "Large and influential TCOs pose a threat to our national security" and that it is an Administration priority to effectively respond to TCOs' illicit manufacturing, trafficking and distribution methods. Department of Defense (DOD) witnesses before the Senate Armed Services Committee have described the DOD's role under current authorities in support of other agencies engaged in counterdrug and counter-TCO operations. The committee is concerned, however, that the flow of illegal drugs, including synthetic drugs, into the United States continues largely unabated, and DOD activities in support of interagency counterdrug and counter-TCO operations remain insufficiently prioritized as part of the National Defense Strategy.

The committee directs the Comptroller General of the United States to assess and report to the congressional defense committees, not later than April 30, 2023, on the DOD's authorities, roles, and responsibilities for counterdrug and counter-TCO operations. The report shall include: (1) A description of the DOD's statutory responsibilities and authorities for counterdrug and counter-TCO operations; (2) The roles of the various components within the DOD in meeting those responsibilities, including the Office of the Secretary of Defense, the geographic combatant commands, the Joint Interagency Task Force-South, Joint Interagency Task Force-West, Joint Interagency Task Force-North, and the Defense Security Cooperation Agency; (3) An assessment of the effectiveness of

the DOD in fulfilling those statutory responsibilities, including the level of coordination among the various components involved; (4) An assessment of efforts to build the capacity of partner nations to conduct or contribute to counterdrug operations; (5) A description of any changes in DOD counterdrug and counter-TCO operations intended to mitigate against and compensate for resource shortfalls; (6) A review of the use of the counterdrug central transfer account, including the purposes for which funds have been reprogrammed; (7) A review of the counterdrug budget activity, including by combatant command or agency, and an assessment of the extent to which those funds were used to contribute directly to the counterdrug mission, including along the following lines of effort: aerial and maritime detection and monitoring, domestic support, readiness, intelligence and information sharing, program management and oversight, and international support; and (8) Any recommendation of the Comptroller General for improving the effectiveness of the DOD's processes and procedures for carrying out the counterdrug and counter-TCO missions.

The committee further directs the Comptroller General to provide an interim brief to the committee on the review not later than March 31, 2023.

Countering information warfare and foreign malign interest initiatives

The committee is concerned that, given the implications of Russia's invasion of Ukraine and its propensity to conduct hybrid warfare operations, the United States may experience an increase in information warfare and malign influence campaigns from Russia and Russian proxies including during the 2022 election season. Despite these circumstances, important initiatives from past years' National Defense Authorization Acts have not been implemented. The committee urges the Department of Defense to work with other relevant federal departments and agencies, as appropriate, to complete, implement, and fully operationalize:

(1) Section 1043 of the John S. McCain National Defense Authorization Act for Fiscal Year 2019 (Public Law 115-232) which requires a malign influence coordinator at the National Security Council;

(2) Section 5322 of the National Defense Authorization Act for Fiscal Year 2020 (Public Law 116-92) which requires the establishment of a malign foreign influence response center;

(3) Section 5323 of the National Defense Authorization Act for Fiscal Year 2020 (Public Law 116-92) and

section 9301 of the William M. (Mac) Thornberry National Defense Authorization Act for Fiscal Year 2021 (Public Law 116-283) which require the establishment of a social media data threat and analysis center;

(4) Section 847 of the National Defense Authorization Act for Fiscal Year 2020 (Public Law 116-92) which requires improvement to risk mitigation processes related to Department of Defense contracting; and

(5) Section 1237 of the William M. (Mac) Thornberry National Defense Authorization Act for Fiscal Year 2021 (Public Law 116-283) which requires a report on Russian support of foreign racially and ethnically motivated violent extremist networks and groups.

Department of Defense next-generation electromagnetic spectrum strategic roadmap

The Department of Defense timelines for threat planning and the completion of Major Defense Acquisition Programs in response to such threats typically are on the order 10-20 years. A central issue in such long-term acquisitions is certainty in the spectrum bands from which these systems must operate, both in the U.S. and abroad, thus requiring a roadmap for spectrum planning over these long timelines. The committee notes that this roadmap is intended to define, based on the global threat environment, warfighter spectrum requirements to support multi-domain operations against peer and near-peer threats. The committee believes that it is essential that the Department of Defense (DOD) account for these future requirements and standards as it develops future acquisition programs and training protocols. The committee notes that the 2020 Department of Defense Electromagnetic Superiority Strategy states, "The Nation has entered an age of warfighting wherein U.S. dominance in air, land, sea, space, cyberspace, and the electromagnetic spectrum (EMS) is challenged by peer and near peer adversaries. These challenges have exposed the cross-cutting reliance of U.S. Forces on the EMS, and are driving a change in how the DOD approaches activities in the EMS to maintain an all-domain advantage."

The committee notes that the roadmap is intended to develop an understanding of the warfighter spectrum requirements necessary to be successful in future multi-domain warfighting operations to allow for the Department to proceed with future discussions with the National Telecommunications and Information Administration (NTIA). The committee understands that the NTIA manages the Federal government's use of spectrum, ensuring that America's domestic and international spectrum needs are met

while making efficient use of this limited resource, and does not intend for this provision to imply that the Department has any authorities for Federal spectrum management. The committee also emphasizes that any additional Federal spectrum needs identified for the DOD would need to be coordinated with the NTIA, through their spectrum management process.

Therefore, the committee directs the Secretary of Defense, not later than July 1, 2023, to prepare a strategic next-generation warfighter EMS roadmap to provide recommendations to address the spectrum-related operational needs to support the mission of the Department.

The strategic roadmap shall include the following:

(1) A threat-informed roadmap for current and future EMS-based technologies for warfighter operations that aligns Department resources and helps set Department priorities and improve agency, academia, and private sector engagement with regard to research and development, future acquisitions to support warfighter operations, and military mission priorities that allows for predictable, transparent, long-term EMS planning and the appropriate use of spectrum-based technologies by the Department;

(2) Definition of adequate EMS resources for the Department to support current and future warfighter EMS-based technologies, including for Department missions as part of statutory roles and responsibilities under title 10, United States Code, and other provisions of law that address the Department's roles and responsibilities;

(3) Challenges to current and future military capabilities across the EMS to achieve United States military readiness, integration across warfighting domains, and increased lethality of United States armed forces;

(4) Forecast capabilities to ascertain the expected EMS access requirements of all military users, including those that advance national security and changes that would be necessary to better exchange information within the Department on projected needs of other military users;

(5) Potential gaps in processes and procedures within the Department to promote current and future EMS-based technologies for warfighter operations using federally allocated spectrum, while advancing national security and homeland defense missions;

(6) Opportunities to promote advanced forms of sharing between military users and on spectrum assigned to the Department, including identifying spectrum that can be shared for commercial use, to improve efficient use of EMS by warfighters for current and future warfighter EMS-based military

technologies to advance the Department's goal of maintaining military overmatch against its adversaries;

(7) Assessment of tools and other resources within the Department required to process large quantities of EMS data regarding military users in rapidly changing EMS environments and to facilitate more dynamic forms of sharing; and

(8) Actions the Department can take to improve communications and long-term planning with the NTIA on the military operational effect of EMS policy decisions.

To the greatest extent practicable, the Secretary shall conduct outreach with relevant industry stakeholders and other entities of the Federal Government in developing the strategic roadmap.

Not later than 30 days after the completion of the roadmap, the Secretary shall submit to the congressional defense committees a report on the strategic roadmap. The Secretary shall also submit such report to the NTIA to inform its responsibilities to manage spectrum for all executive branch agencies and to assign frequencies to such agencies. The report submitted shall include a strategy for regularly updating the strategic roadmap prepared under subsection (a) to reflect the fast pace of technological change, military end-user demands, and warfighter operational requirements. The report shall be submitted in unclassified form, but may include a classified annex.

Department of Defense study on spectrum relocation fund resources

The committee is aware of and supports the robust efforts made by the Department of Defense over the last several years in working to enable electromagnetic sharing between the Department and commercial industry. The committee believes that ensuring the United States maintains the global lead in commercial telecommunications is essential to both our Nation's economic security and national security. The committee commends the Department's recent efforts under America's Mid-Band Initiative Team (AMBIT) to develop a spectrum-sharing plan to make 100 megahertz of mid-band spectrum currently used by the military available for sharing with the private sector for use in development of 5G technologies. The committee also commends the Department's efforts to develop this spectrum-sharing plan in an accelerated timeframe to accelerate the United States' move to 5G networks.

However, the committee is concerned by the significant funds that were required to be reprogrammed within the Department's budget to support this effort. The committee

believes that any efforts from the Department to support spectrum-sharing or spectrum relocation, such as AMBIT, should be funded by spectrum auction funds, not Department of Defense appropriated funds. Therefore, the committee directs the Chief Information Officer of the Department of Defense to provide a report to the Committees on Armed Services of the Senate and the House of Representatives, not later than March 1, 2023, that assesses the implications for the Department's access to the electromagnetic spectrum and resources in sections 113 and 118 of the National Telecommunications and Information Administration Organization Act (47 U.S.C. 923, 928). The report shall also be provided to the National Telecommunications and Information Administration based on their responsibilities for managing the Federal Government's spectrum use.

The report shall include an evaluation of how implementation challenges, access to adequate resources, and timely decisions relate to the implementation of such section 118 and the Spectrum Relocation Fund, including the following: (1) A comprehensive assessment of the challenges faced by the Department regarding how such section and the Fund is currently being implemented, especially with respect to the availability of funds for feasibility assessments and continuity of resources between pre-auction study assessments and post-auction transitions; (2) Identification of resources and any legislative or administrative action required to address sustainment relative to replacement of military capabilities and long-term sharing requirements following an auction of eligible electromagnetic frequencies. (3) Necessary factors to ensure comparable capability of Department systems to meet current operational requirements and increases in functionality when needed; (4) An assessment of procedural hurdles and recommended mitigation measures relating to the participation of the Department in the review process of the Technical Panel established by paragraph (3) of section 113(h) of such Act (47 U.S.C. 923(h)) for transition plans under such section and for purposes of section 118 of such Act (47 U.S.C. 928); (5) Recommendations regarding challenges and lessons learned from overall implementation of such section 118 and the Spectrum Relocation Fund relative to the ability of military capabilities to continue without interruption as part of relocation or sharing solutions to enable an auction of federal electromagnetic frequencies.

Impact of general and flag officer limitations on allocations and assignments to Defense attaché positions

The National Defense Authorization Act for Fiscal Year 2017 (Public Law 114-328) included a provision that reduced the overall number of general and flag officers authorized to serve on Active Duty. The provision required a "comprehensive and deliberate global manpower study of requirements for general and flag officers." As part of the Department of Defense's study, the RAND Corporation was tasked with conducting an independent study of general and flag officer position requirements.

RAND's report, while thorough, specifically excluded from its analysis the allocation and assignment of general and flag officers to Defense attaché positions. The report recommended the Department of Defense conduct a review of all Defense attaché positions to determine where general and flag officers are needed. It does not appear that RAND's recommendation regarding Defense attaché positions was ever attempted.

Therefore, the committee directs the Deputy Secretary of Defense to conduct a review of all Defense attaché positions to determine based on systematic criteria: (1) When general and flag officers are required in a Defense attaché position; (2) Countries that should be assigned a general or flag officer Defense attaché; and (3) Appropriate grades for these positions. The committee directs the Deputy Secretary of Defense to provide a briefing to the Committee on Armed Services of the Senate and the House of Representatives on the results of this review and the overall status of the general and flag officer reduction requirement not later than December 1, 2022.

Military lethality

The committee believes that the primary purpose of the Department of Defense (DOD) is to provide combat-credible military forces needed to deter adversaries and protect the security of our nation. The most critical underpinning of integrated deterrence, the central tenet of the 2022 National Defense Strategy, is lethality. Should deterrence fail, the lethality of our nation's Joint Force will be the primary measure of our ability to fight and win our nation's wars.

The committee believes that any effort by the DOD that does not directly augment the lethality, combat-readiness, or ability to generate deterrence of the Joint Force is outside the scope of the Department's mission. The committee encourages the DOD to utilize lethality as a primary consideration when determining and implementing department policies.

Report on application of Expeditionary Advanced Base Operations and Stand-In Forces to the Arctic Region

The committee commends the Army for its plans to develop and enhance Arctic expertise, including by improving individual and collective training of forces to operate in the region, as well as other mountainous and high-altitude environments, and enhancing cooperation and training with Arctic allies and partners.

Given the Marine Corps' historic mission on the North Atlantic Treaty Organization's northern flank, the committee believes that the Marine Corps has an important role to play in the Arctic. Not later than December 15, 2022, the Commandant of the Marine Corps shall provide a briefing to the congressional defense committees on the applicability of Expeditionary Advanced Base Operations and Stand-In Forces to the defense of U.S. interests in the Arctic region. This briefing shall address the U.S.-based training ranges suited to develop and test operational concepts relevant to Arctic operations, the ways in which the Marine Corps can partner with the other services, allies, and partners to enhance Arctic capabilities, and how the Marine Corps can contribute to domain awareness, sea denial, and regional stability in the Arctic region.

Report on critical infrastructure prioritization

As threats to critical infrastructure have increased over the past years, including cyber intrusions into every critical infrastructure sector, the committee recognizes the importance of the Department of Defense's (DOD) role in protecting critical infrastructure in the event of an attack necessitating mobilization of either title 32 or title 10, United States Code, forces. However, the committee remains concerned that sufficient contingency planning has not been undertaken to determine the appropriate response and prioritization of critical infrastructure in the event of a physical or cyber event for Defense Continuity and Mission Assurance purposes.

For this reason, the committee directs the Secretary of Defense, in consultation with the Assistant Secretary of Defense for Homeland Defense and Hemispheric Affairs, the Joint Staff, the Commander of U.S. Northern Command, the Commander of U.S. Cyber Command, the Chief of the National Guard Bureau, and other offices as the Secretary of Defense determines, to provide a report to the congressional defense committees, not later than March 31, 2023.

The report should provide: (1) A description of the Office of the Secretary of Defense's work relating to Defense Critical Infrastructure; (2) A description of actions necessary for maintaining mission assurance and continuing operations of the Federal Government in accordance with established continuity of

government/continuity of operations planning; (3) An assessment of the DOD's guidance for the prioritization and coordination of protection for critical infrastructure within the United States, including from cyber attacks; (4) A description of the DOD efforts to coordinate and maintain awareness of critical infrastructure prioritization across the interagency; and (5) Any other matters that the Secretary of Defense considers appropriate.

Special operations forces training accidents

The committee is concerned by reports of significant training accidents involving special operations forces (SOF) personnel, including instances that have resulted in the tragic death of servicemembers. The committee understands and strongly supports the high training standards required to maintain SOF readiness, but recent internal Department of Defense studies have concluded that greater attention to high-risk training activities may be required to safely and effectively develop SOF skills. The committee directs the Comptroller General of the United States to review significant training accidents involving SOF. At a minimum, the review shall include an analysis of the following:

(1) Trends in reported training accidents involving SOF personnel and causes associated with such training accidents;

(2) Any factors, including resource limitations, identified by SOF units that may have hindered their ability to safely conduct training;

(3) The extent to which SOF personnel use existing processes to promote safety and reduce risks during training; and

(4) The extent to which lessons learned from training accidents have been effectively incorporated into future training.

The analysis shall also include recommendations, if any, to the Assistant Secretary of Defense for Special Operations and Low Intensity Conflict and Commander, U.S. Special Operations Command, for mitigating the risk of training accidents in the future.

The committee further directs the Comptroller General to provide a briefing to the committee on the results of the review, not later than March 1, 2023, and issue a report to follow at a time agreed to subsequent to the briefing.

Support for United States Telecommunication Training Institute

The committee continues to be concerned with the growing use of high-risk telecommunications infrastructures by United States allies and partners, particularly in developing countries. The committee is aware of the United States Telecommunication Training Institute's efforts to empower developing country officials with the skills needed to manage their spectrum, deploy wireless technologies, develop national broadband plans, implement national cybersecurity strategies, support internet deployment, launch cloud services and ensure sound emergency communications plans all while working to support the rule of law.

Therefore, not later than January 1, 2023, the Chief Information Officer of the Department of Defense shall provide a briefing to the Committees on Armed Services of the Senate and the House of Representatives on the activities of the Department undertaken to help provide technical training and information seminars to advance military readiness as part of the United States Telecommunication Training Institute (USTTI) objectives for supporting the training needs of information technology professionals who design, regulate, and oversee the communications infrastructures of the developing world.

The briefing shall include recommendations for additional Department of Defense support for the advancement of U.S. national policy goals, including as part of agenda items under consideration at the International Telecommunication Union World Radiocommunication Conference 2023, including the following: (1) Recommendations for additional funding for Department programs to provide support for USTTI activities; and (2) Descriptions of additional assistance and guidance that the Chief Information Officer may provide for policy and technical training on best practices for information technology professionals from developing countries.

United States Northern Command report on counterdrug and counter transnational criminal organization activities

The Director of National Intelligence's Annual Threat Assessment emphasized that transnational criminal organizations (TCOs) pose "a direct threat to the United States through human trafficking, the production and trafficking of lethal illicit drugs, cyber crime, and financial crimes and money laundering schemes eroding the integrity of the international financial system." The report further found that illicit drugs pose a threat "at historic levels," with U.S. drug-overdoses exceeding more than 100,000 annually for the first time, which the report said was driven mainly by "a robust supply of synthetic opioids from Mexican TCOs." The report further found that Mexican TCOs

were likely to "seek to continue expanding their capacity to produce finished fentanyl."

Accordingly, the committee directs the Commander, U.S. Northern Command (NORTHCOM), to submit, not later than March 31, 2023, a report to the Committees on Armed Services of the Senate and the House of Representatives on NORTHCOM's counterdrug and counter-transnational criminal organization (C-TCO) activities. The report shall include the following elements:

(1) The Commander's assessment of the threat within the U.S. Northern Command area of responsibility resulting from the flow of illicit drugs into the United States;

(2) The Commander's strategy, authorities, and guidance to the force for the execution of the counterdrug and counter-TCO missions;

(3) The mission essential tasks to address the Commander's threat assessment and strategy;

(4) The metrics used to assess implementation of the strategy and execution of mission essential tasks;

(5) The budgetary funding for counterdrug activities broken up by funding source and type;

(6) The theater security cooperation plan and any related partnership capacity building plans that address the NORTHCOM strategy to conduct counterdrug operations and counter-TCO activities;

(7) The Commander's assessment of any shortfalls in terms of capabilities and budgetary authority, and a characterization of risk for implementing the strategy and plans for counterdrug operations and counter-TCO activities; and

(8) The number of forces apportioned for these mission areas from the services, to include intelligence, surveillance, and reconnaissance assets, by fiscal year since fiscal year 2019.

TITLE XI—CIVILIAN PERSONNEL MATTERS

Eligibility of Department of Defense employees in time-limited appointments to compete for permanent appointments (sec. 1101)

The committee recommends a provision that would amend section 3304 of title 5, United States Code, to authorize certain current and former Department of Defense civilian employees who are, or were, in time-limited appointments to compete for permanent appointments within the Department, under certain conditions.

Employment authority for civilian faculty at certain military department schools (sec. 1102)

The committee recommends a provision that would amend sections 7371, 8748, and 9371 of title 10, United States Code, to add the Army University to the list of institutions within the Army subject to the Secretary of Defense's authority to place certain instructional employees on administratively determined pay plans and that would repeal exceptions to this authority in the Army, Navy, and Air Force relative to positions at such institutions where the duration of the principal course of instruction offered at that school is less than 10 months.

Employment and compensation of civilian faculty members at Inter-American Defense College (sec. 1103)

The committee recommends a provision that would amend section 1595 of title 10, United States Code, to authorize the Secretary of Defense to employ and pay faculty at the United States Element of the Inter-American Defense College as the Secretary considers necessary.

Modification to personnel management authority to attract experts in science and engineering (sec. 1104)

The committee recommends a provision that would authorize certain programs of personnel management authority to recruit experts in science or engineering, subject to certain requirements and limitations.

Enhanced pay authority for certain research and technology positions in science and technology reinvention laboratories (sec. 1105)

The committee recommends a provision to provide enhanced pay for certain acquisition and technology experts in Department of Defense science and technology laboratories.

Modification and extension of pilot program on dynamic shaping of the workforce to improve the technical skills and expertise at certain Department of Defense laboratories (sec. 1106)

The committee recommends a provision that would amend section 1109 of the National Defense Authorization Act for Fiscal Year 2016 (Public Law 114-92) to make a technical and conforming amendment to that section and to extend the authority to conduct the pilot program authorized by that section to December 31, 2027.

Modification of effective date of repeal of two-year probationary period for employees (sec. 1107)

The committee recommends a provision that would amend section 1106 of the National Defense Authorization Act for Fiscal Year 2022 (Public Law 117-81) to extend until December 31, 2024, the sunset of the 2-year probationary period for new employees of the Department of Defense contained in that section.

Modification and extension of authority to waive annual limitation on premium pay and aggregate limitation on pay for Federal civilian employees working overseas (sec. 1108)

The committee recommends a provision that would amend section 1101 of the Duncan Hunter National Defense Authorization Act for Fiscal Year 2009 (Public Law 110-417), as most recently amended by section 1112 of the National Defense Authorization Act for Fiscal Year 2022 (Public Law 117-81), to modify and extend through 2023 the authority of heads of executive agencies to waive the limitation on the aggregate of basic and premium pay of employees who perform work supporting certain military or contingency operations. The provision would remove existing geographic limitations on this authority.

One-year extension of temporary authority to grant allowances, benefits, and gratuities to civilian personnel on official duty in a combat zone (sec. 1109)

The committee recommends a provision that would extend by 1 year the discretionary authority of the head of a Federal agency to provide allowances, benefits, and gratuities comparable to those provided to members of the Foreign Service to the agency's civilian employees on official duty in a combat zone.

Modification of temporary expansion of authority for noncompetitive appointments of military spouses by Federal agencies (sec. 1110)

The committee recommends a provision that would amend section 573 of the John S. McCain National Defense Authorization Act for Fiscal Year 2019 (Public Law 115-232) to extend until December 31, 2028, noncompetitive appointment authority to certain spouses of military personnel and disabled veterans.

Department of Defense Cyber and Digital Service Academy (sec. 1111)

The committee recommends a provision that would establish the Department of Defense Cyber and Digital Service Academy as a scholarship-for-service program partnered with universities and colleges in the United States. The program would cover numerous cyber and digital service disciplines as determined by the Secretary of Defense and would include up to 5 years of tuition and room and board. Participants would be required to serve with the Department of Defense for a period equal to the length of the scholarship.

Civilian cybersecurity reserve pilot project (sec. 1112)

The committee recommends a provision that would require the Secretary of the Army to conduct a pilot program establishing a civilian cybersecurity reserve within the Army for the provision of manpower to the cyber operation forces of U.S. Cyber Command, to include the exercise of alternative employment authority, not subject to the Office of Personnel Management, to establish qualification requirements for, recruitment of, and appointment to positions, and classifying positions.

Modification to pilot program for the temporary assignment of cyber and information technology personnel to private sector organizations (sec. 1113)

The committee recommends a provision that would modify section 1110(d) of the National Defense Authorization Act for Fiscal Year 2010 (Public Law 111-84) to extend the sunset date for the Department of Defense's Cyber Information Technology Exchange Program from September 30, 2022 to December 31, 2026.

Report on cyber excepted service (sec. 1114)

The committee recommends a provision that would require the Secretary of Defense to provide a report annually through 2028 to the Committees on Armed Services of the Senate and the House of Representatives on elements of its execution of the Cyber Excepted Service (CES) program covering the year prior to the report.

The committee is concerned about the slow pace of adoption of the CES personnel system, which provides flexible authorities for managing and compensating personnel in this complex and demanding field. The CES was modeled on the proven Defense

Civilian Intelligence Personnel System, which is used across the Defense Intelligence Enterprise to provide performance-based, mission-focused talent management. The committee strongly encourages the Department of Defense Component heads with personnel eligible for CES to provide incentives and overcome internal obstacles for wider adoption of CES.

ITEMS OF SPECIAL INTEREST

Civilian talent management

The committee is aware of the Defense Business Board (DBB) report published May 18, 2022, titled "Strengthening Defense Department Civilian Talent Management," and concurs with the need to ensure the Department of Defense (DOD) has a workforce with the skills required to support the National Defense Strategy. Development of the civilian workforce must be a priority in the Department of Defense and private-sector best practices can provide useful ideas to ensure future DOD civilian talent management practices recruit, retain, and reward high-quality employees.

Therefore, the committee directs the Deputy Secretary of Defense to submit to the congressional defense committees, not later than December 1, 2022, a briefing on the feasibility of implementation of the DBB's key recommendations, including the resourcing or authorities required for implementation.

TITLE XII—MATTERS RELATING TO FOREIGN NATIONS

SUBTITLE A—ASSISTANCE AND TRAINING

Extension of authority to support border security operations of certain foreign countries (sec. 1201)

The committee recommends a provision that would extend the authority to support border security operations of certain foreign countries through December 31, 2025.

Modification of reporting requirement for provision of support to friendly foreign countries for conduct of operations (sec. 1202)

The committee recommends a provision that would modify the reporting required under section 331(d)(2) of title 10, United States Code, to include a description of the entities with which the applicable friendly foreign country is engaged in hostilities and whether each entity is covered by an authorization for the use of military force.

Payment of personnel expenses necessary for participation in training program conducted by Colombia under the United States-Colombia Action Plan for Regional Security (sec. 1203)

The committee recommends a provision that would permanently codify in title 10, United States Code, the authority provided on a temporary basis under section 1205 of the National Defense Authorization Act for Fiscal Year 2022 (Public Law 117-81) for the Secretary of Defense to pay travel, subsistence, and other personnel expenses associated with the participation of certain foreign personnel in a training program conducted by Colombia under the U.S.-Colombia Action Plan for Regional Security.

Modification of authority for participation in multinational centers of excellence (sec. 1204)

The committee recommends a provision that would modify section 344(f) of title 10, United States Code, to add the International Special Training Centre (ISTC) in Pfullendorf, Germany, to the definition of the term, "Multinational Center of Excellence," under that section. This amendment would allow the Secretary of Defense, with the concurrence of the Secretary of State, to support the participation of U.S. servicemembers and Department of Defense civilians at the ISTC for particular purposes.

Modification of Regional Defense Combating Terrorism and Irregular Warfare Fellowship Program and plan for Irregular Warfare Center (sec. 1205)

The committee recommends a provision that would modify the authority under section 345 of title 10, United States Code, for the Regional Defense Combating Terrorism and Irregular Warfare Fellowship Program by adding the authority for the Secretary of Defense to operate and administer a Center for Security Studies in Irregular Warfare ("IW Center"). The provision would also clarify the authority of the Secretary to pay certain categories of costs associated with the IW Center and to hire employees of the Center, subject to appropriated funds. In anticipation of

additional costs associated with operating and administrating the IW Center, the provision would raise the limitation on funds that may be used under the authority of this section by \$5.0 million to \$40.0 million. The provision would also require the Secretary of Defense to submit to the Committees on Armed Services of the Senate and the House of Representatives a plan for establishing the structure, operations, and administration of the IW Center, including a timeline, milestones, and steps to enter into partnerships and resource agreements with academic institutions of the Department of Defense or other academic institutions, as appropriate. The provision would also express the sense of the Senate that an IW Center established under this section should be named the "John S. McCain III Center for Strategic Studies in Irregular Warfare."

The committee believes that a dedicated center for the study of irregular warfare could result in numerous benefits, including the development of innovative and agile approaches to prevail across the strategic competition and conflict spectrum and promoting integration across the Federal Government.

Modification of authority for humanitarian demining assistance and stockpiled conventional munitions assistance (sec. 1206)

The committee recommends a provision that would amend section 407 of title 10, United States Code, which authorizes the Department of Defense to carry out humanitarian demining assistance and stockpiled conventional munitions assistance to foreign partners.

The committee believes there are a number of opportunities for enhanced cooperation on demining, including a severe need in Ukraine in light of Russia's unprovoked military invasion. The threat of unexploded ordnance, mines, and other explosive remnants of war may impede the safe and timely return of displaced civilians, undermine efforts to rebuild Ukrainian infrastructure and the economy, and pose a long-term danger in Ukraine. The committee expects the modifications in this provision to be supportive of efforts to address such threats.

Extension and modification of authority for reimbursement of certain coalition nations for support provided to United States military operations (sec. 1207)

The committee recommends a provision that would extend the authority for reimbursement of certain coalition nations for support provided to U.S. military operations through December 31, 2023.

Modifications to humanitarian assistance (sec. 1208)

The committee recommends a provision that would specify purposes for the humanitarian assistance authority under section 2561 of title 10, United States Code. The provision would also improve congressional oversight of the authority.

Defense Environmental International Cooperation Program (sec. 1209)

The committee recommends a provision that would authorize the Secretary of Defense to obligate and expend up to \$10.0 million per year to carry out a Defense Environmental International Cooperation Program to support engagement with foreign partners on defense-related environmental and operational energy issues in support of the theater campaign plans of the geographic combatant commands.

Security cooperation programs with foreign partners to advance women, peace, and security (sec. 1210)

The committee recommends a provision that would clarify the Department of Defense authorities available to execute security cooperation activities that further the implementation of the Women, Peace, and Security Act of 2017 (Public Law 115-68).

Review of implementation of prohibition on use of funds for assistance to units of foreign security forces that have committed a gross violation of human rights (sec. 1211)

The committee recommends a provision that would require the Secretary of Defense to review the Department of Defense policies, guidance, and processes for implementing the prohibition under section 362 of title 10, United States Code, on the use of funds for assistance to units of foreign security forces for which the Secretary has credible information that the unit has committed a gross violation of human rights. The Secretary would be required to report to the congressional defense committees on the finding of that review not later than 180 days after the date of the enactment of this Act. The provision would also require the Secretary of Defense to report periodically through fiscal year 2025 on the remediation process under section 362 of title 10, United States Code.

Independent assessment of United States efforts to train, advise, assist, and equip the military forces of Somalia (sec. 1212)

The committee recommends a provision that would require an independent assessment of Department of Defense efforts to train, advise, assist, and equip the military forces of Somalia.

Assessment and report on adequacy of authorities to provide assistance to military and security forces in area of responsibility of United States Africa Command (sec. 1213)

The committee recommends a provision that would direct the Secretary of Defense to conduct an assessment and report on the adequacy of authorities to provide assistance to military and security forces in the area of responsibility of U.S. Africa Command (AFRICOM).

The committee notes that the Commander, U.S. AFRICOM, testified on March 15, 2022, that "terrorism has metastasized to Africa. Al-Qaida's al Shabaab in East Africa and ISIS and al-Qaida groups in West Africa and elsewhere are among the world's fastest-growing, wealthiest, and deadliest terrorist groups and remain grave and growing threats that aspire to kill Americans, both there and in our homeland." The committee believes it prudent for the Department of Defense to assess the adequacy of existing authorities to address these security threats with African partners.

SUBTITLE B—MATTERS RELATING TO SYRIA, IRAQ, AND IRAN

Extension of authority to provide assistance to vetted Syrian groups and individuals (sec. 1221)

The committee recommends a provision that would extend the authority, through 2023, to provide assistance to vetted Syrian groups under section 1209 of the Carl Levin and Howard P. "Buck" McKeon National Defense Authorization Act for Fiscal Year 2015 (Public Law 113-291), as amended. The committee is concerned about threats from Islamic State of Iraq and Syria (ISIS) detainees held in partner-run detention facilities. The February 2022 attack by ISIS militants on the detention facility in Hasakah, Syria, highlights the grave national security concern to the United States and its allies and partners if this threat goes unaddressed.

To address this threat, the committee recommends the extension of the national security waiver for the Secretary of Defense on the costs of construction and repair on a per project basis through 2023. The committee notes, however, that the waiver authority provided in section 1221 of the National Defense Authorization Act for Fiscal Year 2022 (Public Law 117-81) has not yet been utilized, and the committee has not been informed of a comprehensive plan to address these urgent concerns. The committee directs the Secretary of Defense to provide a report, not later than December 15, 2022, on its plans to use the authorities provided in this section in fiscal year 2022 to assist partners to improve security at these detention facilities, including through the use of waivers provided for construction and repair on a per-project basis. The committee further notes that section 1224 of the National Defense Authorization Act for Fiscal Year 2020 (Public Law 116-92) authorized the establishment of an ISIS detainee coordinator to oversee a whole-of-government approach to address this urgent national security threat. The position has not yet been established, and the committee urges the administration to appoint a coordinator as soon as possible.

Extension and modification of authority to support operations and activities of the Office of Security Cooperation in Iraq (sec. 1222)

The committee recommends a provision that would extend the authorization for the Office of Security Cooperation in Iraq. The committee notes that the long stated goal of the Department of Defense is to transition the Office to conduct activities in a manner that is similar to other regional security cooperation offices. The committee further notes that the authorization for funding is restricted as the Department has not provided a fulsome plan as to how to transition the Office to align with this goal.

Extension and modification of authority to provide assistance to counter the Islamic State of Iraq and Syria (sec. 1223)

The committee recommends a provision that would extend the authority to provide assistance to Iraq to counter the Islamic State of Iraq and Syria (ISIS) through December 31, 2023. The committee supports continued assistance to the Iraqi Security Forces, including the Counter Terrorism Service and the Ministry of Peshmerga, in order to continue operations to ensure the lasting defeat of ISIS. The committee also recommends the extension of the national security waiver for the Secretary of

Defense on the costs of construction and repair on a per project basis for purposes of support to Iraqi government partners related to temporary and humane detention through 2023. The committee notes, however, that the waiver authority provided in section 1223 of the National Defense Authorization Act for Fiscal Year 2022 (Public Law 117-81) was to respond to urgent threats stemming from ISIS fighters detained in partner-run detention facilities in Iraq and Syria. This authority has not yet been utilized and the committee has not been informed of a comprehensive plan to address these urgent concerns. Therefore, the committee directs the Secretary of Defense to provide a report, not later than December 15, 2022, on plans to use the authorities provided in such section to assist the Government of Iraq to improve security at these detention facilities, including through the use of the waivers provided for construction and repair on a per-project basis.

Assessment of support to Iraqi Security Forces and Kurdish Peshmerga Forces to counter air and missile threats (sec. 1224)

The committee recommends a provision that would require the Secretary of Defense to submit a report that would assess: (1) The threat of missiles, rockets, and unmanned aerial systems (UAS) to United States and coalition forces in Iraq, including the Iraqi Kurdistan region; (2) The current air defense capabilities and gaps; and (3) The required training and equipment to improve air defense capabilities. Additionally, the provision would direct an assessment of the current state of partner forces capabilities and gaps and required training and equipment to improve air defense capabilities. The committee strongly supports continued efforts by the Kurdish Peshmerga to deepen their partnership with Iraqi Security Forces and the United States and to counter shared air and missile threats.

The committee strongly supports extending assistance to the Iraqi Security Forces, including Kurdish Peshmerga Forces, for the purposes authorized in the Counter-ISIS Train and Equip Fund, including for defending Iraq, its people, allies, and partner nations from the threat posed by the Islamic State of Iraq and Syria (ISIS) and groups supporting ISIS and securing the territory of Iraq. The committee commends the ongoing efforts of the Kurdish Peshmerga to degrade ISIS.

Updates to annual report on military power of Iran (sec. 1225)

The committee recommends a provision that would amend the annual report on the military power of Iran to include an

assessment of threats from Iranian-linked groups.

The committee is concerned about the uptick in violence from Iranian-linked groups throughout the region, including from Iranian-aligned militia groups against United States and coalition forces in Iraq and Syria. In addition, not later than December 15, 2022, the committee directs the Secretary of Defense to provide an overview of the current rules of engagement of United States forces with regards to efforts to defend and mitigate threats to United States forces from Iranian-aligned militia groups in Iraq and Syria.

SUBTITLE C—MATTERS RELATING TO EUROPE AND THE RUSSIAN FEDERATION

Modification of limitation on military cooperation between the United States and the Russian Federation (sec. 1231)

The committee recommends a provision that would modify section 1232(a) of the National Defense Authorization Act for Fiscal Year 2017 (Public Law 114-328) to extend the limitation on military cooperation between the United States and the Russian Federation until certain conditions established by the FY2017 NDAA are met.

Extension of prohibition on availability of funds relating to sovereignty of the Russian Federation over Crimea (sec. 1232)

The committee recommends the extension of a provision to prohibit funds authorized to be appropriated by this Act for fiscal year 2023 for the Department of Defense from being obligated or expended to implement any activity that recognizes the sovereignty of the Russian Federation over Crimea.

Extension and modification of Ukraine Security Assistance Initiative (sec. 1233)

The committee recommends a provision that would extend through December 31, 2025, the authority provided under section 1250 of the National Defense Authorization Act for Fiscal Year 2016 (Public Law 114-92), for the Secretary of Defense, with the concurrence of the Secretary of State, to provide appropriate security assistance and intelligence support, including training, equipment, logistics support, supplies and services, salaries and stipends, and sustainment to the military and national security forces of the Government of Ukraine and to

other forces or groups recognized by, and under the authority of, the Government of Ukraine. The provision would authorize \$800.0 million in fiscal year 2023 to provide security assistance to Ukraine via this authority.

The committee recognizes the dynamic nature of the security situation in Ukraine requires that the Department have a variety of authorities at its disposal to support Ukraine's Armed Forces. The Ukraine Security Assistance Initiative (USAI) is essential, both in the immediate fight against Russia aggression and as part of the longer-term effort to support the Ukrainian government's efforts to rebuild and enhance the military capabilities needed to maintain their sovereignty and defend their territory. In recognition of the need to carry out these two efforts, Congress has appropriated \$6.3 billion in USAI funds through fiscal year 2023.

North Atlantic Treaty Organization Special Operations Headquarters (sec. 1234)

The committee recommends a provision that would codify in title 10, United States Code, the authority of the Secretary of Defense to support the North Atlantic Treaty Organization Special Operations Headquarters.

Report on United States military force posture and resourcing requirements in Europe (sec. 1235)

The committee recommends a provision that would require the Secretary of Defense to submit a report to the congressional defense committees, not later than 120 days after the date of enactment of this Act, containing an assessment of the required force posture, partner and ally engagements, and resourcing needed to implement the National Defense Strategy in Europe and U.S. commitments to the North Atlantic Treaty Organization made at the June 2022 Madrid Summit. The report shall also include the resources and estimated timelines required to meet those requirements.

Sense of the Senate and report on civilian harm (sec. 1236)

The committee recommends a provision that would express the sense of the Senate that the United States goes to great lengths to minimize the prospect of civilian harm, in contrast to the Russian Federation, which has shown a complete disregard for civilian safety in Ukraine. The provision would also require

a report on atrocities committed against Ukrainian civilians by the Russian Federation.

Sense of the Senate on the North Atlantic Treaty Organization (sec. 1237)

The committee recommends a provision that would express the sense of the Senate that the United States' commitment to the North Atlantic Treaty Organization is ironclad and would emphasize the importance of maintaining a unified response to Russia's unjust war in Ukraine and other shared security challenges.

Sense of the Senate on Ukraine (sec. 1238)

The committee recommends a provision that would express the sense of the Senate that the United States stands with the people of Ukraine as they defend their freedom, sovereignty, and pursuit of further Euro-Atlantic integration.

SUBTITLE D—MATTERS RELATING TO THE INDO-PACIFIC REGION

Extension and modification of Pacific Deterrence Initiative (sec. 1241)

The committee recommends a provision that would extend the Pacific Deterrence Initiative, authorized by section 1251 of the William M. (Mac) Thornberry National Defense Authorization Act for Fiscal Year 2021 (Public Law 116-283), as amended, through fiscal year 2023.

The committee notes that the National Defense Strategy, the Global Posture Review, and the independent assessment of the Commander, U.S. Indo-Pacific Command, all emphasize the importance of a strong U.S. military posture west of the International Date Line for helping to ensure a free and open Indo-Pacific region. The committee strongly supports investments to improve facilities and infrastructure necessary to support a more robust and distributed military posture in the Indo-Pacific region and commends the Department of Defense for including additional funding in the fiscal year 2023 budget request to advance the planning and design of new facilities in the region.

The committee directs the Secretary of Defense, as part of the briefing required by section 1251 of the William M. (Mac) Thornberry National Defense Authorization Act for Fiscal Year 2021, as amended, to provide an assessment of the feasibility

and advisability of accelerating infrastructure investments in the Indo-Pacific region.

Extension of authority to transfer funds for Bien Hoa dioxin cleanup (sec. 1242)

The committee recommends a provision that would extend the authority of the Secretary of Defense to transfer up to \$15.0 million to the Secretary of State for the Bien Hoa dioxin cleanup in Vietnam through fiscal year 2023.

Modification of Indo-Pacific Maritime Security Initiative to authorize use of funds for the Coast Guard (sec. 1243)

The committee recommends a provision that would modify the Indo-Pacific Maritime Security Initiative (MSI), authorized by section 1263 of the National Defense Authorization Act for Fiscal Year 2016 (Public Law 114-92), as amended, to authorize the Secretary of Defense to utilize funds under the authority to facilitate participation of U.S. Coast Guard personnel and capabilities in the execution of training, exercises, and other activities with foreign partners under the MSI. The recommended provision would also remove the limitation on funding under the authority.

The committee notes many U.S. foreign partners in the Indo-Pacific region face increasing challenges to their sovereignty, encroachment, and harassment in the maritime domain. The committee notes that the MSI is a tool that can be used by the Department of Defense as a means to develop the capabilities of foreign partners to detect and, if necessary, respond to such challenges, including through asymmetric defensive means. The committee encourages the Department to prioritize low-cost transfers of technology, equipment, and training to help foreign partners respond to such challenges and would welcome a proposal to modify current authorities and resourcing should the Department deem them insufficient to support the objectives of MSI.

Defense of Taiwan (sec. 1244)

The committee recommends a provision that would state that, consistent with the Taiwan Relations Act (Public Law 96-8), it shall be the policy of the United States to maintain the ability of the United States Armed Forces to deny a fait accompli against Taiwan in order to deter the People's Republic of China from using military force to unilaterally change the status quo with Taiwan.

Multi-year plan to fulfill defensive requirements of military forces of Taiwan and modification of annual report on Taiwan asymmetric capabilities and intelligence support (sec. 1245)

The committee recommends a provision that would require the Secretary of Defense, in coordination with the Secretary of State and American Institute in Taiwan, to seek to engage with appropriate officials from Taiwan to develop and implement a multiyear plan to provide for the acquisition of appropriate defensive capabilities by Taiwan and to engage with Taiwan in a series of combined trainings, exercises, and planning activities, consistent with the Taiwan Relations Act (Public Law 96-8). The provision would also amend the annual reporting requirement on assistance to Taiwan contained in section 1248 of the National Defense Authorization Act for Fiscal Year 2022 (Public Law 117-81) to include plans for expedited military assistance to Taiwan in the event of a crisis or conflict and other related matters.

Enhancing major defense partnership with India (sec. 1246)

The committee recommends a provision that would require the Secretary of Defense to direct appropriate personnel within the Department of Defense to seek to engage their counterparts within the Ministry of Defence of India for the purpose of expanding cooperation on emerging technology, readiness, and logistics. The provision would also require the Secretary of Defense to provide a briefing to the appropriate committees of the Congress on the feasibility and advisability of expanding cooperation with the Ministry of Defence of India on various specified topics and the challenges in doing so.

Enhanced indications and warning for deterrence and dissuasion (sec. 1247)

The committee recommends a provision that would require the Director of the Defense Intelligence Agency (DIA) to establish a program to increase warning time of potential aggression by adversary nation states.

The committee notes that preventing a major conflict in the Indo-Pacific region through deterrence and dissuasion is critically important for national security and economic stability. Peer adversaries appear to have the ability to launch major military operations on short notice, and may try to do so in part in the hope of presenting the United States and the world at large with a fait accompli. The committee believes that it is very important to make concerted efforts to gain more

warning time of adversary plans to launch military campaigns to provide leaders more decision space. The intelligence community (IC) provided substantial advance warning of Russia's plans to invade Ukraine, which provided time for the United States and allied leaders to mount deterrence and dissuasion efforts to persuade the Russian President to change his mind. While ultimately unsuccessful in this instance, the value of gaining warning time for diplomacy and for military preparations has been clearly demonstrated.

Additionally, the committee notes that during the Cold War, when faced with similar short-warning threats, the IC created the position of National Intelligence Officer for Warning. This office was eliminated after the Cold War. This provision, in directing the creation of the position of Defense Intelligence Officer for Warning and a warning program within the DIA, would again focus attention and appropriate resources on the warning problem.

The committee believes that a warning program could exploit many new sources of comprehensive information, to which statistical tools and advanced analytics, including artificial intelligence, can be applied to provide patterns of life, identification of deviations from normal behavior, and a comprehensive view of adversaries' posture.

Pilot program to develop young civilian defense leaders in the Indo-Pacific region (sec. 1248)

The committee recommends a provision that would authorize the Secretary of Defense to carry out a pilot program, using existing authorities available to the Department of Defense, to enhance engagement of the Department of Defense with young civilian defense and security leaders in the Indo-Pacific region.

The committee believes engagement with civilian leadership of foreign partner ministries of defense or other ministries with a national security mission is critical to strengthening bilateral and multilateral relationships in the Indo-Pacific region. Currently, many countries in the Indo-Pacific region and elsewhere lack formal training for civilians on defense and security issues and managing the defense enterprise in their country. This lack of professionalization and substantive expertise hinders international cooperation as well as effective civilian oversight of the military. The committee believes the Department of Defense should utilize existing authorities and the expertise of the Daniel K. Inouye Asia-Pacific Center for Security Studies, the Institute for Security Governance, the Defense Institute of International Legal Studies, and other

relevant personnel within the Department to engage young civilian defense leaders from foreign partner countries for the purposes of enhancing bilateral and multilateral cooperation and building the capacity of young civilian leaders to promote civilian control of the military, respect for human rights, and adherence to the law of armed conflict.

The committee notes that there are non-governmental entities that have similar missions and expertise in engaging and training young civilian defense leaders from Indo-Pacific partner countries. The committee encourages the Department of Defense to consult non-governmental entities with relevant expertise in support of the pilot program's mission.

Cross-functional team for matters relating to the People's Republic of China (sec. 1249)

The committee recommends a provision that would direct the Secretary of Defense to establish a cross-functional team to integrate Department of Defense efforts to address national security challenges posed by China using the authority provided pursuant to section 911(c) of the National Defense Authorization Act for Fiscal Year 2017 (Public Law 114-328).

Report on bilateral agreements supporting United States military posture in the Indo-Pacific region (sec. 1250)

The committee recommends a provision that would require the Secretary of Defense, not later than 180 days after the date of the enactment of this Act, to provide the congressional defense committees a report on the adequacy of existing bilateral agreements with foreign governments that support United States existing and planned military posture in the Indo-Pacific region.

Sense of the Senate on supporting prioritization of the People's Republic of China, the Indo-Pacific Region, and Taiwan (sec. 1251)

The committee recommends a provision that would express the sense of the Senate supporting prioritization of the People's Republic of China, the Indo-Pacific region, and Taiwan by the Department of Defense.

Sense of Congress on defense alliances and partnerships in the Indo-Pacific region (sec. 1252)

The committee recommends a provision that would express the sense of Congress on the importance of defense alliances and partnerships in the Indo-Pacific region.

Prohibition on use of funds to support entertainment projects with ties to the Government of the People's Republic of China (sec. 1253)

The committee recommends a provision that would prohibit the use of funds authorized by this Act from being used to knowingly provide active and direct support to any film, television, or other entertainment project with respect to which any producer or other person associated with the project seeks pre-approval of the content of the project or modifies the content of the project as a result of direction from any entity of the Government of the People's Republic of China or the Chinese Communist Party.

SUBTITLE E—REPORTS

Report on Fifth Fleet capabilities upgrades (sec. 1261)

The committee recommends a provision that would require the Secretary of Defense to submit a report on capabilities upgrades, and the cost of such upgrades, necessary to enable the Fifth Fleet to address emerging threats in its area of responsibility.

The committee is concerned about the ability of United States, ally, and partner forces in the Middle East to share information in a timely and coherent manner regarding seaborne threats. Strengthening maritime domain awareness in the waters in and around the broader Middle East will enable the United States and partner naval forces to deter and defend against Iran's seaborne attacks, naval harassment and other provocations. The committee recommends that the Commander, U.S. Central Command, take steps to deepen the shared understanding of regional maritime threats between United States, ally, and partner naval forces, including by coordinating and fusing intelligence with partner forces, enhancing the ability of United States and partner forces to rapidly deploy intelligence, surveillance, and reconnaissance capabilities, and incorporating Israel into the Combined Maritime Forces.

SUBTITLE F—OTHERS MATTERS

Prohibition on participation in offensive military operations against the Houthis in Yemen (sec. 1271)

The committee recommends a provision that would prohibit support for the Saudi-led coalition's offensive operations against the Houthis in Yemen.

The committee condemns the Houthis' ongoing malign behavior in the region, including missile and unmanned aerial systems attacks. The committee notes its support for measures to defend Saudi Arabia, the United Arab Emirates, and other coalition partners against Houthi attacks elsewhere in this Act and further notes that nothing in this provision would prohibit defensive support to counter such threats.

Extension of authority for United States-Israel cooperation to counter unmanned aerial systems (sec. 1272)

The committee recommends a provision to extend the authority for United States-Israel cooperation to counter unmanned aerial systems through December 31, 2026.

Extension of authority for certain payments to redress injury and loss (sec. 1273)

The committee recommends a provision that would extend section 1213 of the National Defense Authorization Act for Fiscal Year 2020 (Public Law 116-92) through December 31, 2024.

Modification of Secretary of Defense Strategic Competition Initiative (sec. 1274)

The committee recommends a provision that would clarify the authority under section 1332 of the National Defense Authorization Act for Fiscal Year 2022 (Public Law 117-81) for the Secretary of Defense to fund Department of Defense activities and programs that advance U.S. national security objectives for strategic competition.

The committee recognizes that strategic competition below the threshold of armed conflict is a critical component of the U.S. National Defense Strategy. The committee urges the Secretary of Defense to prioritize, through the Strategic Competition Initiative, activities and programs that support U.S. strategic objectives in competing with near-peer rivals.

The committee also notes that section 1332 of the National Defense Authorization Act for Fiscal Year 2022 required the development and submission of plans for strategic competition initiatives for U.S. Southern Command (SOUTHCOM) and U.S. Africa

Command (AFRICOM). The committee reiterates its continuing concern about the malign influence and activities of near-peer rivals the People's Republic of China and the Russian Federation in the areas of responsibility (AOR) of SOUTHCOM and AFRICOM and urges the Secretary of Defense to act expeditiously to develop and implement strategic competition initiatives in these AORs.

Assessment of challenges to implementation of the partnership among Australia, the United Kingdom, and the United States (sec. 1275)

The committee recommends a provision that would direct the Secretary of Defense to seek to enter into an agreement with a federally funded research and development center to conduct an independent assessment of resourcing, policy, and process challenges to implementing the partnership among Australia, the United Kingdom, and the United States, commonly known as the AUKUS partnership.

ITEMS OF SPECIAL INTEREST

Abbey Gate

The committee expresses its sincere condolences to the families, loved ones, and friends of the 13 American servicemembers who were killed during the August 26, 2021, ISIS-Khorasan attack on Abbey Gate at Hamid Karzai International Airport in Kabul while trying to assist the evacuation of their fellow Americans, Afghan partners, and at risk Afghans from Afghanistan:

Marine Corps Staff Sgt. Darin T. Hoover, 31, of Salt Lake City, Utah

Marine Corps Sgt. Johanny Rosario Pichardo, 25, of Lawrence, Massachusetts

Marine Corps Sgt. Nicole L. Gee, 23, of Sacramento, California

Marine Corps Cpl. Hunter Lopez, 22, of Indio, California

Marine Corps Cpl. Daegan W. Page, 23, of Omaha, Nebraska

Marine Corps Cpl. Humberto A. Sanchez, 22, of Logansport, Indiana

Marine Corps Lance Cpl. David L. Espinoza, 20, of Rio Bravo, Texas

Marine Corps Lance Cpl. Jared M. Schmitz, 20, of St. Charles, Missouri

Marine Corps Lance Cpl. Rylee J. McCollum, 20, of Jackson, Wyoming

Marine Corps Lance Cpl. Dylan R. Merola, 20, of Rancho Cucamonga, California

Marine Corps Lance Cpl. Kareem M. Nikoui, 20, of Norco, California

Navy Hospitalman Maxton W. Soviak, 22, of Berlin Heights, Ohio

Army Staff Sgt. Ryan C. Knauss, 23, of Corryton, Tennessee

The committee honors the bravery and sacrifice of these American heroes.

Afghanistan demining

The committee is concerned about the threat to civilian life from unexploded ordnance in Afghanistan, and would like to assess whether there is relevant publicly releasable information the Department of Defense (DOD) could provide to assist humanitarian demining organizations in Afghanistan.

Therefore, the committee directs the Secretary of Defense to provide a briefing to the Committees on Armed Services of the Senate and the House of Representatives, not later than December 15, 2022, on the information that the DOD can readily provide to humanitarian demining organizations in Afghanistan to assist demining efforts, the time and resources required to assess whether United States or coalition strikes in Afghanistan resulted in unexploded ordnance, and whether it is possible to assess the percentage of unexploded ordnance that is the consequence of Taliban, al-Qaida, or Islamic State of Iraq and Syria-Khorasan hostilities.

Assessment of Iran sanctions relief on terrorist activities under the Joint Comprehensive Plan of Action

The committee is concerned that the Iranian government could use any sanctions relief that it receives under the Joint Comprehensive Plan of Action to increase the budget of the Islamic Revolutionary Guard Corps, which is the institution through which the Iranian government supports terrorist groups worldwide, which will in turn significantly increase the risk to U.S. forces in the U.S. Central Command area of responsibility and affect implementation of the 2022 National Defense Strategy.

Therefore, not later than December 1, 2022, the committee directs the Director of the Defense Intelligence Agency and the Commander, U.S. Central Command, to provide a briefing to the congressional defense committees, in an unclassified setting

with a classified component if necessary, on the extent to which it assesses Iran would use sanctions relief to bolster its support for Iranian-linked groups across the Middle East and U.S. Central Command's requirements for deterring and countering increased malign behavior from such groups.

Assessments of will to fight of foreign forces

The committee notes that the Department of Defense has sought continuously to improve and innovate, including learning lessons from the wars fought in Iraq and Afghanistan and applying those lessons to competition and future conflict. The committee is interested in the ability of military commanders to assess the qualitative characteristics of a foreign combatant force's will to fight. Recent examples of intelligence assessments of this factor in Afghanistan and in Ukraine serve as case studies for showing the challenges in assessing this aspect of warfare, which can have significant policy and political implications.

The committee directs the Secretary of Defense to provide a briefing to the committee, not later than January 31, 2023, regarding the Department's efforts to improve its ability to provide reliable assessments of the will to fight of foreign combat forces that receive U.S. security assistance, to include potential metrics that can be used and additional methods and resources required to collect relevant information and assess this aspect of foreign forces' capabilities.

Black Sea strategy

The committee is concerned that even as Russia continues its invasion of Ukraine, it has continued to target all countries in the Black Sea region as part of its revanchist attempt to subvert democracies and reconstitute a Soviet-era sphere of influence. Russia is also suppressing freedom of navigation in the Black Sea region, suffocating Ukraine's economy, and triggering a global food security crisis.

Given the threats posed by Russia to the region, United States defense commitments to regional North Atlantic Treaty Organization allies, and its geographic significance for passage between Europe and Asia, the committee directs the Secretary of Defense, no later than January 1, 2023, to provide the congressional defense committees with a briefing on Department of Defense (DOD) posture, security cooperation, and military-to-military engagement in the Black Sea region. The briefing should, at a minimum, include a discussion on the priority security assistance efforts with Black Sea allies and partners;

military educational training; planned or in-development military exercises; efforts to work with regional allies and partners to counter Russian hybrid warfare and malign influence activities; and any changes to such efforts guided by the National Defense Strategy issued on March 28, 2022. The committee notes that such efforts will only be successful if they are part of a robust whole-of-government approach to the region. As such, the briefing should also address how the DOD efforts are integrated with and supportive to the interagency strategy in the Black Sea region.

Briefing on energy imports of the People's Republic of China

The committee directs the Secretary of Defense, in consultation with the commanders of the geographic combatant commands and the head of any other relevant Federal agency, as appropriate, to provide the congressional defense committees a briefing on the energy imports of the People's Republic of China, not later than December 1, 2022. For the purposes of this briefing, the term "covered vessel" means a commercial vessel sailing under the flag of the People's Republic of China capable of transporting oil or liquefied natural gas. At a minimum, the briefing shall include an analysis of:

- (1) The number of covered vessels;
- (2) The number of covered vessels that transit through the South and East China Seas annually;
- (3) The annual percentage of energy imports by the People's Republic of China that transit through the South and East China Seas on covered vessels;
- (4) The extent to which covered vessels are escorted or otherwise supported by the People's Liberation Army-Navy or maritime militia of the People's Republic of China;
- (5) The annual percentage of energy imports by the People's Republic of China that transit through the South and East China Seas on commercial vessels under the flag of a country other than the People's Republic of China;
- (6) The maritime lines of communication in the South and East China Seas that are most important to the ability of the People's Republic of China's to import oil and liquefied natural gas; and
- (7) Any other matters deemed relevant by the Secretary.

Briefing on engagement with Pacific Island Countries

The committee recognizes that the Pacific Island Countries (PICs) are key partners for maintaining a free and open Indo-

Pacific region and notes with concern expanded engagement with, and coercion of, the PICs by the People's Republic of China in recent years. The United States has significant national security interests in the Indo-Pacific region and the committee commends multilateral efforts by the United States and other allies, including Australia, New Zealand, and Japan, to address our shared interests with PIC partners. The committee believes it is critical for the United States to foster long-term, sustainable relationships in the region that are based on continuity and regular engagement.

Therefore, the committee directs the Assistant Secretary of Defense for Indo-Pacific Security Affairs to provide the committee with a briefing, not later than December 1, 2022, that details the Department of Defense's multiyear plans for engagement with PIC partners and any current impediments to such engagement. This briefing shall include a description of multilateral engagement by the United States and other regional partners, including Australia, New Zealand, and Japan, with PIC partners, as well as Chinese threats to the PICs, the United States, and our regional partners and allies.

Briefing on National Guard Special Operations Forces Irregular Warfare Training

The committee notes that implementation of the 2022 National Defense Strategy requires the continued development of special operations forces to address destabilizing efforts by malign nations and non-state entities. The committee also notes that combined training and other engagement opportunities with trusted allies and partners, including the annual Ridge Runner Irregular Warfare Training Activity, are important tools for building interoperability and the capabilities necessary to address irregular warfare challenges.

Therefore, the committee directs the Secretary of Defense, in coordination with the Assistant Secretary of Defense for Special Operations and Low Intensity Conflict and the Chief of the National Guard Bureau, to provide a classified briefing to the congressional defense committees not later than February 1, 2023, that includes: (1) A description of National Guard Special Operations Forces efforts relating to irregular warfare training provided to foreign nations in the State Partnership Program, including the Ridge Runner Irregular Warfare Training Activity; (2) An assessment of the effectiveness of this training activity in developing interoperability with, and the capabilities of foreign allies and partners; (3) Recommendations for the expansion of this training activity to realistically simulate all domain and full mission profile activities; and (4)

Recommendations on any additional staffing or funding for these training activities in future years.

Building partner capacity for information operations

The committee notes that the recent conflict between Ukraine and Russia has demonstrated the importance of a robust and active information operations (IO) strategy to help inform the international community and shape public opinion. The committee believes there are significant opportunities to responsibly assist foreign partners in the conduct of IO. Therefore, the committee directs the Under Secretary of Defense for Policy, as the Principal IO Advisor, to provide a briefing to the congressional defense committees, not later than December 31, 2022, detailing the Department of Defense's efforts to build the capacity of foreign partners to responsibly and effectively conduct IO. At a minimum, the briefing shall include:

- (1) An identification of priority foreign partner forces for IO capacity building efforts;
- (2) An analysis of the feasibility and advisability of using existing authorities to build the IO capacity of foreign partners to conduct IO, including:
 - (a) the building partner capacity authority under section 333 of title 10, United States Code;
 - (b) Joint Combined Exchange Training under section 322 of title 10, United States Code; and
 - (c) the Regional Defense Combating Terrorism and Irregular Warfare Fellowship Program under section 345 of title 10, United States Code; and
- (3) A description of efforts to build the institutional capacity of foreign partners and ensure respect for the law of armed conflict, human rights and fundamental freedoms, the rule of law, and civilian control of the military in IO.

Captagon trade

The committee is concerned about the Captagon trade in the Middle East, which has been linked to the regime of Bashar al-Assad of Syria. The committee further notes the implications of the Captagon trade on the national security of the United States and its allies and partners in the Middle East. The committee urges the Department of Defense to work with the Department of State and other appropriate government agencies to develop a strategy to deny, degrade, and dismantle the Assad-linked narcotics production and trafficking network. Therefore, the committee directs the Secretary of Defense to provide a briefing

to the congressional defense committees, and other committees as appropriate, not later than December 15, 2022, on progress in developing such a strategy.

Counterterrorism operations in Afghanistan

The committee remains concerned about the threats from al-Qaida, ISIS-Khorasan, and other terrorist groups operating in Afghanistan. The committee affirms the need for a robust counterterrorism architecture to ensure that Afghanistan cannot be used as a base to conduct attacks against the United States or its allies. Therefore, the committee directs the Secretary of Defense, as part of the quarterly briefings required by section 1092 of the National Defense Authorization Act for Fiscal Year 2022 (Public Law 117-81), to address the following issues:

(1) The status, as of the date on which the briefing is provided, of any ongoing review of counterterrorism policy carried out by the Department of Defense;

(2) The role of the Department in any ongoing interagency deliberations on updated guidance with respect to counterterrorism policy;

(3) Any guidance provided by the Department relating to the conduct of counterterrorism operations in Afghanistan;

(4) The types and amounts of intelligence, surveillance, and reconnaissance coverage used over the covered period;

(5) Ongoing and planned efforts to improve intelligence, surveillance, and reconnaissance and direct action capabilities to specifically address threats in Afghanistan; and

(6) Efforts to secure basing or access agreements with countries neighboring Afghanistan.

Department of Defense rule of law capacity building

The committee recognizes that a critical element of Department of Defense (DOD) efforts globally to build the capacity of foreign security forces and institutions are programs to promote the observance of, and respect for, the rule of law and the law of armed conflict. Given the challenges for promoting the rule of law through DOD security cooperation around the globe, the committee encourages the Department to collaborate with academia and university centers with proven experience in training foreign government audiences on rule of law initiatives. Additionally, the committee encourages the Department to engage with academia and university centers to develop strong anticorruption and transparency programming to continue promoting the rule of law worldwide.

Government Accountability Office report on military aid to Ukraine

The committee supports continued investment in European security, including robust defense support to the Ukrainian government. The committee notes that the United States Congress has authorized and appropriated significant resources to support the Ukrainian government in their fight for democracy and against unprovoked Russian aggression. Ukraine has received security assistance through Presidential Drawdown Authority and appropriated funds. As the conflict has evolved the Department of Defense (DOD) has provided more advanced defense equipment to Ukraine, in addition to increasing previously provided equipment. The committee notes that with the increase in the quality and sophistication of defense equipment provided, there is a need for greater efforts to monitor and ensure accountability for such items. Therefore, the committee directs the Comptroller General of the United States to conduct a review of the allocation and use of security assistance in Ukraine. At a minimum, the review should:

(1) Assess the timeliness and relevance of security assistance, including equipment, training, and advisory services the DOD has provided to Ukrainian security forces and associated funding for such efforts since January 1, 2022;

(2) Assess to what extent and by what systems and processes the DOD is tracking equipment provided to Ukraine;

(3) Assess to what extent and by what systems and processes the DOD is mitigating against proliferation of provided equipment, including any technical means by which the DOD may protect against unauthorized use of such equipment; and

(4) Any other matters deemed relevant by the Comptroller General.

The committee further directs the Comptroller General to provide an interim brief to the committee on the review no later than December 1, 2022, and issue a report to follow at a time agreed to subsequent to the briefing.

Report on the ramifications of an invasion of Taiwan by China

The committee notes that the Taiwan Relations Act (Public Law 96-8) states that "any effort to determine the future of Taiwan by other than peaceful means" is "a threat to the peace and security of the Western Pacific Area and of grave concern to the United States" and believes that a People's Republic of China (PRC) military takeover of Taiwan would pose significant geopolitical risk for the United States and our allies and partners in the region.

Therefore, the committee directs the Director of the Defense Intelligence Agency, not later than March 1, 2023, to provide the congressional defense committees with an assessment of the strategic ramifications of a successful or unsuccessful military invasion of Taiwan by the PRC for the United States as well as our partners and allies, including Japan and Australia. The required report may be submitted in classified form, but should also be accompanied by an unclassified summary free of handling restrictions.

Security cooperation programming for Estonia, Latvia, and Lithuania

The committee recognizes the significant contributions the nations of Estonia, Latvia, and Lithuania have made as members of the international coalition supporting the Government of Ukraine and its citizens in response to the Russian Federation's illegal and unprovoked war. As the Department of Defense assesses security cooperation programming in fiscal year 2023, to include programming collectively referred to as a Baltic Security Initiative, the committee expects substantial attention to be paid to those countries most directly affected by the ongoing security threats to the North Atlantic Treaty Organization's eastern flank posed by Russian aggression. In addition, priority should be given, as appropriate, to countries in need of assistance in backfilling military capabilities provided to Ukraine.

Support for Afghan Allies

The committee recognizes the significant sacrifices of its Afghan partners in countering terrorism during the Afghanistan War from 2001-2021. The committee notes that during the two-decade war, Afghan military personnel and police officers fought bravely on behalf of their country, and more than 66,000 were killed in their battle against terrorists. Their stalwart partnership with the United States for nearly two decades deterred the Taliban, which harbored the al-Qaida leadership responsible for the September 11, 2001 attacks, from taking over the country, and prevented al-Qaida from using Afghanistan as a base to attack the United State and its allies.

The committee remains concerned about the safety and security of those Afghans who remain in Afghanistan that worked alongside the United States and coalition partners and those Afghans who fled Afghanistan to third countries as a result of the situation in Afghanistan, notes its strong support for an extension of the Special Immigrant Visa program for

Afghans, and urges the Department of Defense (DOD) to continue assisting in efforts to ensure the safety of these partners and, where possible, to assist their repatriation to the United States.

The committee believes that the United States government should have a comprehensive approach to continue to facilitate the relocation and resettlement of at-risk Afghans, including those that remain in Afghanistan under threat from the Taliban, and those currently residing in third countries.

The committee recognizes that between 5,000-7,500 at-risk Afghan allies fled Afghanistan via private charter and other means between September 1, 2021 and December 31, 2021 and remain in third countries, such as the United Arab Emirates, Albania, Denmark, Turkey, Pakistan, and Mexico.

The committee believes that these at-risk Afghan allies should qualify for the Administration's coordinated response to support vulnerable Afghans subject to any and all required vetting and security screening, including use of, if appropriate, data provided by the National Ground Intelligence Center.

The committee recommends that the DOD work in concert with other government agencies to provide support as appropriate to facilitate relocation and resettlement of at-risk Afghan allies.

The committee further commends the various veteran service organizations, veterans, non-governmental organizations, and private citizens who joined together to assist in the evacuation and resettlement of at-risk Afghan allies.

The committee recommends that the Secretary of Defense consider the feasibility of partnering with such groups, to include providing grants or other monetary assistance, to help facilitate the relocation and resettlement of at-risk Afghan allies.

U.S.-Israel Defense Cooperation

The committee commends the governments of Bahrain and the United Arab Emirates for continuing to build security and military ties with the government of Israel since the signing of the Abraham Accords under the auspices of the United States on September 15, 2020. The committee urges the Department of Defense to continue promoting deeper defense and defense industrial cooperation between these partners.

Therefore, no later than December 1, 2022, the committee directs the Secretary of Defense to brief the congressional defense committees regarding plans to promote an expanded

defense industrial base partnership between the United States, Israel, Bahrain, and the United Arab Emirates to address shared operational threats.

United States-Israel Operations-Technology Working Group

The committee applauds the Department of Defense's establishment on November 1, 2021, of the United States-Israel Operations-Technology Working Group, which the Congress authorized in section 1299M of the William M. (Mac) Thornberry National Defense Authorization Act for Fiscal Year 2021 (Public Law 116-283). Following the inaugural meeting in May 2022, the committee continues to believe the working group can play a vital role in strengthening the bilateral military research and development relationship with Israel and help ensure American warfighters never confront adversaries from a strategic disadvantage.

The committee expects the working group to fulfill four primary responsibilities. These include: (1) Providing a standing forum for the United States and Israel to systematically share intelligence-formed military capability requirements; (2) Identifying military capability requirements common to the Department of Defense and the Ministry of Defense of Israel; (3) Assisting defense suppliers in the United States and Israel by assessing recommendations from such defense suppliers with respect to joint science, technology, research, development, test, evaluation, and production efforts; and (4) Developing, as feasible and advisable, combined United States-Israel plans to research, develop, procure, and field weapon systems and military capabilities as quickly and economically as possible to meet common capability requirements of the Department and the Ministry of Defense of Israel.

The committee is committed to ensuring the success of the U.S.-Israel Operations-Technology Working Group. The committee directs the Under Secretary of Defense for Research and Engineering to provide a briefing to the congressional defense committees, not later than December 15, 2022, on the extent to which the working group is fulfilling its four primary responsibilities. The briefing shall also include outcomes of the May meeting, the timeline and implementation plan for each area of cooperation, and whether additional authorities are required.

Wagner Group

The committee understands that private military companies, like the Wagner Group, are increasingly being used by the

Russian government as a means to achieve its security objectives around the world and to undermine the security interests of the United States and its partners and allies. The committee notes that the Commander of United States Africa Command (AFRICOM) testified on March 15, 2022, that across Africa "mercenaries from the Kremlin's Wagner Group offer a one-stop-shop for regime protection, resource exploitation, and horrific violence against Africans" and that AFRICOM is "shining a spotlight on that with information operations and some public diplomacy and advising our African partners to try to steer clear of these groups." The committee recognizes that AFRICOM has published public statements identifying the destabilizing actions of the Wagner Group on the continent, including the identification of the Wagner Group as a Russian state-sponsored entity, attribution of Wagner's provision of Russian supplies and equipment to Libyan fighters, and satellite imagery of Wagner forces and equipment on the front lines of the conflict in Libya, including conducting air strikes using Russian fighter aircraft.

The committee supports efforts by AFRICOM and other elements of the Department of Defense to bring greater attention to the malign activities of the Wagner Group in Africa and elsewhere around the world through the public release of information and through the sharing of information with partners and allies. The committee looks forward to receiving updates from the Department on its assessment of the threat posed by the Wagner Group and any ongoing or planned efforts to work with partners and allies to bring greater awareness of such threats.

TITLE XIII—COOPERATIVE THREAT REDUCTION

Cooperative threat reduction funds (sec. 1301)

The committee recommends a provision that would authorize \$341.6 million for the Cooperative Threat Reduction (CTR) program, define the funds as authorized to be appropriated in section 301 of this Act, and authorize CTR funds to be available for obligation for fiscal years 2023, 2024, and 2025.

TITLE XIV—OTHER AUTHORIZATIONS

SUBTITLE A—MILITARY PROGRAMS

Working capital funds (sec. 1401)

The committee recommends a provision that would authorize the appropriations for the defense working capital funds at the levels identified in section 4501 of division D of this Act.

Chemical Agents and Munitions Destruction, Defense (sec. 1402)

The committee recommends a provision that would authorize the appropriations for Chemical Agents and Munitions Destruction, Defense, at the levels identified in section 4501 of division D of this Act.

Drug Interdiction and Counter-Drug Activities, Defense-wide (sec. 1403)

The committee recommends a provision that would authorize the appropriations for Drug Interdiction and Counter-drug Activities, Defense-wide, at the levels identified in section 4501 of division D of this Act.

Defense Inspector General (sec. 1404)

The committee recommends a provision that would authorize the appropriations for the Office of the Inspector General of the Department of Defense at the levels identified in section 4501 of division D of this Act.

Defense Health Program (sec. 1405)

The committee recommends a provision that would authorize appropriations for the Defense Health Program activities at the levels identified in section 4501 of division D of this Act.

SUBTITLE B— NATIONAL DEFENSE STOCKPILE

Modification of acquisition authority under Strategic and Critical Materials Stock Piling Act (sec. 1411)

The committee recommends a provision that would amend the Strategic and Critical Materials Stock Piling Act (50 U.S.C. 98d) in order to give the National Defense Stockpile Manager greater flexibility and agility to acquire critical materials, including rare earth elements, that are necessary to meet the requirements of the Department of Defense.

Briefings on shortfalls in National Defense Stockpile (sec. 1412)

The committee recommends a provision that would amend section 14 of the Strategic and Critical Materials Stock Piling Act (50 U.S.C. 98h-5) to require the National Defense Stockpile Manager to submit, not later than March 1 each year, a briefing to the congressional defense committees on strategic and critical materials shortfalls.

Authority to acquire materials for the National Defense Stockpile (sec. 1413)

The committee recommends a provision that would authorize the National Defense Stockpile Manager to use, of the funds appropriated for the National Defense Stockpile Transaction Fund, \$1.0 billion for the acquisition of materials determined to be strategic and critical materials required to meet the defense, industrial, and essential civilian needs of the United States.

SUBTITLE C—OTHER MATTERS

Authorization of appropriations for Armed Forces Retirement Home (sec. 1421)

The committee recommends a provision that would authorize an appropriation of \$152.4 million from the Armed Forces Retirement Home Trust Fund for fiscal year 2023 for the operation of the Armed Forces Retirement Home.

Authority for transfer of funds to Joint Department of Defense—Department of Veterans Affairs Medical Facility Demonstration Fund for Captain James A. Lovell Health Care Center, Illinois (sec. 1422)

The committee recommends a provision that would authorize the Secretary of Defense to transfer \$167.6 million from the Defense Health Program to the Joint Department of Defense—Department of Veterans Affairs Medical Facility Demonstration Fund, established by section 1704 of the National Defense Authorization Act for Fiscal Year 2010 (Public Law 111-84), for the operation of the Captain James A. Lovell Federal Health Care Center.

ITEMS OF SPECIAL INTEREST

Antimony trisulfide and metal

The committee is concerned about recent geopolitical dynamics with Russia and China and how they could accelerate supply chain disruptions, particularly of antimony, that could lead to national security vulnerabilities. Antimony trisulfide (stibnite) and antimony metal are important materials in the production of armament systems for the Department of Defense. One key vulnerability is that stibnite has been primarily procured from China and Russia. Without a reliable source of stibnite, U.S. small and medium caliber munition production to meet warfighter requirements could be vulnerable. Reestablishing domestic production or increasing reliance on imports from an allied nation could mitigate stibnite supply chain vulnerabilities by bolstering a supply chain that is resilient to adverse global economic and geopolitical conditions.

Accordingly, the committee directs the Director, Defense Logistics Agency, in consultation with the Assistant Secretary of Defense, Office of Industrial Base Policy, to provide a briefing to the committee, not later than March 1, 2023, on: (1) The stockpile status of these materials; (2) Current production timeline requirements; (3) Material amounts required during a contingency or pacing threat scenario and the production timeline of those materials, and requirements to backfill depleted stockpile of those materials; and (4) A 5-year outlook of these minerals and current and future supply chain vulnerabilities.

Critical and strategic minerals and materials vulnerabilities

The committee notes that the United States relies significantly on foreign nations, many of them unfriendly and with nonexistent labor and environmental standards, to meet much of the United States' present critical mineral demands. As reported by the U.S. Geological Survey, the United States imported more than 50 percent of its supply of at least 47 minerals commodities in 2021, including 100 percent of the supply of 17 mineral commodities. The concentration of where that supply comes from makes the foreign dependence even more concerning. China dominates the international critical mineral supply chain, presenting a national security vulnerability for the United States and harsh economic realities for American manufacturers. With demand for certain minerals expected to grow over the next two decades, United States' reliance on China and other non-allied nations to satisfy this demand may increase without action. The Congress has acted to provide substantial new authorities and federal assistance to boost domestic mineral supplies. Yet, given the severity of this challenge, those steps alone will not be sufficient. On March 31, 2022, President Biden

invoked the Defense Production Act of 1950 (Public Law 81-774) to address domestic production and processing of the battery metals, which is a first step.

Accordingly, the committee directs the Assistant Secretary of Defense for Industrial Base Policy to assess whether any additional critical and strategic minerals and materials should be subject to a Presidential Determination, under title III of the Defense Production Act of 1950, and provide a briefing to the committee, not later than March 1, 2023, on its findings and recommendations.

High purity aluminum

The committee previously noted in the Senate report accompanying S. 2987 (S. Rept. 115-262) of the John S. McCain National Defense Authorization Act for Fiscal Year 2019 the importance of high purity aluminum (HPA) to meet national security requirements. The Senate report encouraged the Secretary of Defense to take affirmative steps to maintain secure sources of supply for HPA and to consider investing in appropriate improvements to make the production of domestic HPA more efficient and available than through the traditional smelting process. High purity aluminum plays a critical role in defense platforms such as in the bulkheads for the F-35, the advanced armor for the Joint Light Tactical Vehicle, and is used to make alloys that are used in other defense and space platforms. The demand for HPA is expected to continue to increase as the Department of Defense ramps up production on key next generation air and ground platforms and the need for weight reduction remains a key requirement. The committee notes the United States relies heavily on imports for HPA, and the report released, on February 24, 2021, pursuant to Executive Order 14017, titled "Securing Defense-Critical Supply Chains," highlights HPA as a critical mineral with significant supply chain risk. The committee is disappointed to learn that the Department has not taken any steps on increasing domestic HPA production capability.

Accordingly, the committee directs the Assistant Secretary of Defense for Industrial Base Policy, not later than March 1, 2023, to provide a briefing to the congressional defense committees on: (1) The Department's plans to ensure a robust domestic HPA production capability that is more energy efficient than the traditional smelting process; (2) Any obstacles that would limit Department investments in HPA capability improvements; and (3) Any opportunities to work with allies to increase production capacity of HPA.

Report on domestic titanium production

The committee is aware of advanced manufacturing technologies (additive manufacturing, superplastic forming, innovative casting and forgings processes, etc.) that could provide significant cost savings during the production of titanium parts used in critical defense applications.

The committee believes that advancements in advanced manufacturing technology show potential to make domestic titanium production more competitive in the global marketplace, which would reduce reliance on foreign adversaries for aerospace-grade titanium used in defense assets.

As such, the committee encourages the Department of Defense to encourage public and private sector cooperation to establish titanium processing facilities in the United States, especially facilities based on using efficient and clean technologies that benefit the Department of Defense.

The committee also encourages the Department of Defense to develop and scale up dual-use domestic advanced manufacturing technologies to lower the cost of titanium production in order to reduce defense procurement costs.

Accordingly, the committee directs the Secretary of Defense, in consultation with the Secretary of Commerce, to provide a briefing to the committee, not later than March 1, 2023, on an analysis of domestic commercial titanium requirements, identified barriers to domestic titanium production, and a cost-benefit analysis of using efficient and clean technologies to produce titanium and titanium parts for Department of Defense requirements.

BUDGET ITEMS

Health care for anomalous health incidents

The budget request included \$35.3 billion in Operation and Maintenance, Defense-wide (OMDW) for the Defense Health Program, of which \$9.9 billion was for line number 1 In-House Care.

The committee recommends an increase in OMDW of \$20.0 million for line number 1 In-House Care to address the threat characterization and treatment of certain uniformed members, Federal civilian employees, and their family members affected by anomalous health incidents.

National Disaster Medical System pilot program

The budget request did not include funding for the National Disaster Medical System pilot program, authorized by section 740 of the National Defense Authorization for Fiscal Year 2020 (Public Law 116-92), as amended by section 741 of the William M. (Mac) Thornberry National Defense Authorization Act for Fiscal Year 2021 (Public Law 116-283).

The committee understands that the pilot program will be carried out over 5 years at five locations. Accordingly, the committee recommends an increase of \$15.0 million in Operation and Maintenance, Defense-wide (OMDW) for the Defense Health Program, in line number 7 Base Operations/Communications, for the National Disaster Medical System pilot program.

Counter-narcotics support U.S. Northern Command

The budget request included \$2.0 billion for Transfer Accounts, of which \$619.5 million was for the Drug Interdiction and Counter-Drug Activities, Defense Transfer Account, SAG 1FU1 Counter-Narcotics Support, of which \$20.2 million was for U.S. Northern Command (NORTHCOM).

The committee is concerned that the request for NORTHCOM's counterdrug and counter-transnational criminal organization activities represents a 40 percent cut in funding even as the Director of National Intelligence's World Wide Threat report found that drug overdose levels in the United States are at historic levels.

Therefore the committee recommends an increase of \$8.0 million in SAG 1FU1 Counter-Narcotics Support for NORTHCOM counterdrug activities.

**TITLE XV—SPACE ACTIVITIES, STRATEGIC
PROGRAMS, AND INTELLIGENCE MATTERS**

SUBTITLE A—SPACE ACTIVITIES

Additional authorities of Chief of Space Operations (sec. 1501)

The committee recommends a provision deeming the Chief of Space Operations the force design architect for space systems of the Armed Forces.

Comprehensive strategy for the Space Force (sec. 1502)

The committee recommends a provision that would direct the Secretary of the Air Force and the Chief of Space Operations to jointly develop strategic objectives for the U.S. Space Force. The provision would also include reporting and briefing requirements.

Review of Space Development Agency exemption from Joint Capabilities Integration and Development System (sec. 1503)

The committee recommends a provision that would require the Secretary of Defense to review and make a recommendation on the exemption of the Space Development Agency from the Joint Capabilities Integration and Development System. The provision would also recommend the Secretary of the Air Force and the Director of the Space Development Agency to implement such a recommendation.

Applied research and educational activities to support space technology development (sec. 1504)

The committee recommends a provision that would allow the Secretary of the Air Force and the Chief of Space Operations to carry out applied research and education activities to support space technology.

Continued requirement for National Security Space Launch program (sec. 1505)

The committee recommends a provision that requires phase two launch providers to meet Federal requirements with respect to payloads and orbits.

Extension of annual report on Space Command and Control (sec. 1506)

The committee recommends a provision that would amend section 1613 of the National Defense Authorization Act for Fiscal Year 2020 (Public Law 116-92) to extend the annual reporting requirement through 2030.

Modification of reports on integration of acquisition and capability delivery schedules for segments of major satellite acquisitions programs and funding for such programs (sec. 1507)

The committee recommends a provision that would delete the report required by section 2275(f)(3) of title 10, United States Code.

Update to plan to manage Integrated Tactical Warning and Attack Assessment System and multi-domain sensors (sec. 1508)

The committee recommends a provision that would require the Secretary of the Air Force to update the plan to manage the Air Force missile warning elements of the Integrated Tactical Warning and Attack Assessment System, prepared pursuant to section 1669 of the National Defense Authorization Act for Fiscal Year 2018 (Public Law 115-91). The provision would also specify requirements for coordinating with other agencies, among other things.

SUBTITLE B—NUCLEAR FORCES

Matters relating to role of Nuclear Weapons Council with respect to budget for nuclear weapons programs (sec. 1511)

The committee recommends a provision that would realign certain statutory requirements concerning annual nuclear weapons budget assessments to fall within the list of enumerated Nuclear Weapons Council responsibilities. The provision would also require timely confirmation from the Nuclear Weapons Council that such assessments are occurring and expand the list of programs that would trigger a congressional notification if insufficiently funded.

Development of risk management framework for the United States nuclear enterprise (sec. 1512)

The committee recommends a provision that would direct the Under Secretary of Defense for Acquisition and Sustainment (USD(A&S)) and the Administrator for Nuclear Security, in coordination with other members of the Nuclear Weapons Council, to establish a joint risk management process to periodically identify, analyze, and respond to risks that affect the U.S. nuclear enterprise and report, internally and externally to relevant stakeholders, those risks and any associated mitigation efforts. The USD(A&S) and the Administrator for Nuclear Security should draw upon subject matter expertise resident within the Defense Acquisition University and leverage existing Nuclear Weapons Council structures and processes to identify, analyze,

and respond to risks that affect the entire U.S. nuclear enterprise.

The provision would also direct the USD(A&S) and the Administrator for Nuclear Security to provide a briefing to the congressional defense committees on its progress in establishing such a joint risk management process not later than February 1, 2023, and a briefing on the completed joint risk management process not later than June 30, 2023.

A Government Accountability Office (GAO) report published on January 20, 2022, titled "Nuclear Enterprise: DOD and NNSA Could Further Enhance How They Manage Risk and Prioritize Efforts" (GAO-22-104061), found that, despite the interdependencies among the Department of Defense (DOD) and National Nuclear Security Administration (NNSA) nuclear programs, the DOD and NNSA have not established joint processes to periodically identify, analyze, and respond to risks that affect the joint U.S. nuclear enterprise, and report information about these risks to stakeholders. Effective risk management of the U.S. nuclear enterprise as a whole requires comprehensive risk assessment and reporting that takes into account all program interdependencies that exist between and within the DOD and NNSA portfolios, as well as agreement on how to manage those shared risks.

Biannual briefing on nuclear weapons and related activities (sec. 1513)

The committee recommends a provision that would require six Department of Defense officials to provide biannual briefings to the Committees on Armed Services of the Senate and House of Representatives on nuclear weapons and related matters. The provision would terminate on January 1, 2028.

Plan for development of reentry vehicles (sec. 1514)

The committee recommends a provision that would require the Under Secretary of Defense for Acquisition and Sustainment, in consultation with the Administrator for Nuclear Security of the National Nuclear Security Administration and the Under Secretary of Defense for Research and Engineering, to produce a 20-year plan for the development of the Mark 21A, Mark 7, and other re-entry vehicles. The provision would specify the elements to be included in such a plan and require assessments of the plan.

Industrial base monitoring for B-21 and Sentinel programs (sec. 1515)

The committee recommends a provision that would require the Secretary of the Air Force, acting through the Assistant Secretary of the Air Force for Acquisition, Technology, and Logistics, to designate a senior official to monitor the industrial base supporting the acquisition of B-21 aircraft and the Sentinel program. The committee believes that such a senior official should be a member of the Senior Executive Service. The provision would also include definitions and a reporting requirement.

Establishment of intercontinental ballistic missile site activation task force for Sentinel program (sec. 1516)

The committee recommends a provision that would establish within the Air Force Global Strike Command (AFGSC) a directorate to stand up the LGM-35A Sentinel Intercontinental Ballistic Missile Task Force (ICBM) weapon system known as the Intercontinental Ballistic Missile Task Force, which would serve as the site activation task force (SATAF) to oversee and integrate not only the construction associated with the Sentinel weapon system but the myriad other factors of sub-systems associated with the technical baseline of the Sentinel weapon, personnel, and material leading to an operational capability that will be managed by the AFGSC. The provision would direct the Secretary of the Air Force to appoint a Director of the SATAF who would be a general officer with experience in large construction projects with a term of 3 years.

The committee believes that the Secretary should select a Director of sufficient rank to effectively operate and direct activities across multiple organizations, given the operational and logistical challenges associated with concurrently meeting U.S. Strategic Command requirements during the transition period from Minuteman III to Sentinel. Further, the committee believes the Director should also possess a working knowledge of ICBM operations, maintenance, and logistics. The provision would also designate the Sentinel missile field as a single weapon system to ensure its associated lifecycle maintenance planning accounts for this system of systems concept, given that each of the 150 launch facilities is interconnected with the other launch facilities across an entire wing and with launch control centers. With the magnitude of the effort involved, the provision would direct annual reporting with quarterly briefings from the Secretary of the Air Force on its progress. Finally, the provision would terminate the task force and eliminate the

position of Director upon a declaration of full operational capability for the Sentinel weapon system.

The committee notes that when the United States began initial ICBM silo construction in the 1960s, the congressional oversight committees at the time were actively involved in ensuring rapid activation of the missile fields and supported the consolidation of missile field construction management functions into a single office under the command of a major general to oversee the project, with senior colonels directing activities at individual sites. Officials at the time recognized the importance of a clear, centralized management hierarchy to coordinate resources across thousands of localities and provide much needed advocacy and leadership to a workforce more than 21,000 strong. The committee recognizes that recapitalization of existing Minuteman III ICBM silos and ground equipment in preparation for deployment of the LGM-35A Sentinel ICBM weapon system will be one of the most complex civil engineering projects undertaken by the Department of Defense since this initial construction effort. Spanning thousands of square miles across the midwestern United States, the three missile wings must be updated at a rate of approximately one per week over a decade to meet U.S. Strategic Command operational requirements. As was the case in the early days of U.S. ICBM development, appropriate leadership and management of this project will be critical to successful, on-time delivery of a much-needed operational capability.

Sense of the Senate and briefing on nuclear cooperation between the United States and the United Kingdom (sec. 1517)

The committee recommends a provision that would express the sense of the Senate that the independent nuclear deterrents of the United States, the United Kingdom, and the French Republic are the supreme guarantee of the security of the North Atlantic Treaty Organization. The provision would further express the sense of the Senate that the United States and the United Kingdom face similar challenges in modernizing their aging nuclear deterrents and that continued nuclear cooperation between the United States and the United Kingdom is in the national security interests of the United States.

The provision would also require a briefing on opportunities to further enhance and strengthen the bilateral partnership between the nuclear enterprises of the United States and the United Kingdom.

Limitation on use of funds until submission of reports on intercontinental ballistic missile force (sec. 1518)

The committee recommends a provision that would limit the amount obligated or expended for the operations of the Office of the Under Secretary of Defense for Policy to not more than 50 percent of the amount authorized by this Act until the Department of Defense provides the reports and documents required by section 1647 of the National Defense Authorization Act for Fiscal Year 2022 (Public Law 117-81).

Prohibition on reduction of the intercontinental ballistic missiles of the United States (sec. 1519)

The committee recommends a provision that would prohibit the obligation or expenditure of authorized funds from fiscal year 2023 to reduce deployed U.S. intercontinental ballistic missiles' responsiveness, alert level, or quantity to fewer than 400. The provision would provide an exception to this prohibition for activities related to maintenance, sustainment, and replacement, or activities to ensure safety, security, or reliability.

Limitation on use of funds for B83-1 retirement and report on defeating hard and deeply buried targets (sec. 1520)

The committee recommends a provision that would require a study on the defeat of hard and deeply buried targets prior to expending or obligating funds to deactivate, dismantle, or retire the B83-1 nuclear gravity bomb.

Limitation on use of funds for naval nuclear fuel systems based on low-enriched uranium (sec. 1521)

The committee recommends a provision that would limit the use of funds made available in fiscal year 2023 for the purposes of conducting research and development of an advanced naval nuclear fuel system based on low-enriched uranium until certain determinations are provided to the congressional defense committees. The provision would also require the Administrator for Nuclear Security to submit a report on activities conducted for the development of nonproliferation fuels using amounts made available for fiscal year 2022.

Further limitation on use of funds until submission of analysis of alternatives for nuclear sea-launched cruise missile (sec. 1522)

The committee recommends a provision that would limit the amount obligated or expended for the operations of the Office of the Under Secretary of Defense for Policy to not more than 75 percent of the amount authorized by this Act until the Department of Defense provides a briefing and report on the analysis of alternatives for the nuclear sea-launched cruise missile as required by section 1641 of the National Defense Authorization Act for Fiscal Year 2022 (Public Law 117-81).

Modification of reports on Nuclear Posture Review implementation (sec. 1523)

The committee recommends a provision that would amend section 491(c) of title 10, United States Code, to extend the relevant reporting periods and make a technical amendment to update a referenced report.

Modification of requirements for plutonium pit production capacity plan (sec. 1524)

The committee recommends a provision that would provide for a limitation on funds authorized for fiscal year 2023 for the Office of the Under Secretary of Defense for Acquisition and Sustainment until the plan required by section 2538a(a) of title 50, United States Code, is submitted. The provision would also amend section 4219(c) of the Atomic Energy Defense Act (50 U.S.C. 2538a(c)) to require the Chairman of the Nuclear Weapons Council to notify the congressional defense committees as to whether the Council received sufficient information to develop a plan to enable the nuclear security enterprise to meet requirements, should the Secretary of Energy fail to certify that the programs and budget of the Department of Energy will enable the nuclear security enterprise to do so.

On April 25, 2022, the committee received a letter from the Nuclear Weapons Council stating that the Council would be "unable to provide an alternative budget or funding plan that will enable the nuclear security enterprise to achieve the plutonium pits requirements contained in section 2538a(a) [of title 50, United States Code]." The committee views this correspondence as non-responsive to a clear statutory requirement and expects the Council to provide the directed plan as soon as possible, given the clear urgency to reestablish an adequately-sized plutonium pit production capability for the United States.

Extension of requirement to report on nuclear weapons stockpile (sec. 1525)

The committee recommends a provision that would amend section 492a of title 10, United States Code, to extend, through the year 2029, the requirement for a report on the plan for the nuclear weapons stockpile, nuclear weapons complex, nuclear weapons delivery systems, and nuclear weapons command and control system.

Extension of requirement for annual assessment of cyber resiliency of nuclear command and control system (sec. 1526)

The committee recommends a provision that would amend section 499(e) of title 10, United States Code, to extend the requirement for an assessment of the cyber resiliency of the nuclear command and control system through 2032.

Extension of requirement for unencumbered uranium plan (sec. 1527)

The committee recommends a provision that would amend section 4221(a) of the Atomic Energy Defense Act (50 U.S.C. 2538c(a)) to extend the biannual plan submission requirement through the year 2030.

Extension of pit production annual certification (sec. 1528)

The committee recommends a provision that would amend section 3120(e) of the John S. McCain National Defense Authorization Act for Fiscal Year 2019 (Public Law 115-232) to extend the annual certification requirement through 2030.

Elimination of obsolete reporting requirements relating to plutonium pit production (sec. 1529)

The committee recommends a provision that would amend section 3120 of the John S. McCain National Defense Authorization Act for Fiscal Year 2019 (Public Law 115-232) by removing outdated reporting and briefing requirements and extending the annual certification requirement to 2029, among other things.

Technical amendment to additional report matters on strategic delivery systems (sec. 1530)

The committee recommends a provision that would make technical corrections to section 495(b) of title 10, United States Code.

SUBTITLE C—MISSILE DEFENSE

Persistent cybersecurity operations for ballistic missile defense systems and networks (sec. 1541)

The committee recommends a provision that would direct the Director of the Missile Defense Agency, in consultation with the Director of Operational Test and Evaluation, to develop a plan to conduct persistent cybersecurity operations across all networks and systems supporting the Ballistic Missile Defense System. The provision would outline criteria for the plan.

The provision would also require the Director of the Missile Defense Agency to provide briefings to the congressional defense committees on the plan, not later than May 15, 2023, and on progress made towards implementing the plan, not later than December 30, 2023.

Middle East integrated air and missile defense (sec. 1542)

The committee recommends a provision that would require the Secretary of Defense to undertake a strategy for improved integrated air and missile defense cooperation between the United States, countries of the Gulf Cooperation Council, Iraq, Israel, Jordan, and other Middle Eastern allies and partners as needed to counter threats from Iran and Iranian-linked groups. The provision would also direct the Secretary of Defense to undertake a cost feasibility study for such purposes.

Designation of a Department of Defense individual responsible for missile defense of Guam (sec. 1543)

The committee recommends a provision that would require the Secretary of Defense to designate a senior Department of Defense (DOD) individual to be responsible for the missile defense of Guam and designate it as a special interest acquisition category 1D program consistent with DOD Instruction 5000.85. The committee notes that this effort involves the acquisition and system integration of three separate service-related missile defense programs at multiple sites across the island against a complex array of missile related threats relying on constrained infrastructure on the island of Guam.

Modification of provision requiring funding plan for next generation interceptors for missile defense of United States homeland (sec. 1544)

The committee recommends a provision that would amend section 1668 of the National Defense Authorization Act for Fiscal Year 2022 (Public Law 117-81) to require the Secretary of Defense to provide a funding plan to the Congress at the time of the President's budget request for fiscal year 2024 for the Missile Defense Agency that would enable the acquisition of no fewer than 64 Next Generation Interceptors in order to have a uniform fleet of interceptors with the same attributes. The provision would also require the Secretary of Defense to notify the Congress of any decision to cancel the Next Generation Interceptor program no less than 90 days prior to implementation.

Biannual briefing on missile defense and related activities (sec. 1545)

The committee recommends a provision that would require officials to provide biannual briefings to the congressional defense committees on missile defense and related matters. The provision would terminate on January 1, 2028.

Improving acquisition accountability reports on the ballistic missile defense system (sec. 1546)

The committee recommends a provision that would amend section 225 of title 10, United States Code, to modify the elements required in acquisition baselines and in annual reports on acquisition baselines, among other things.

Iron Dome short-range rocket defense system and Israeli cooperative missile defense program co-development and co-production (sec. 1547)

The committee recommends a provision that would authorize funding for the procurement of the Iron Dome short-range rocket defense system, David's Sling Weapon System, and Arrow 3 Upper Tier Interceptor Program as outlined under the Memorandum of Agreement between the United States and the Government of Israel for cooperative missile defense programs.

Making permanent prohibitions relating to missile defense information and systems (sec. 1548)

The committee recommends a provision that would make the prohibitions relating to missile defense information and systems under section 130h of title 10, United States Code, permanent.

Limitation on use of funds until missile defense designations have been made (sec. 1549)

The committee recommends a provision that would provide for a limitation on funds authorized for fiscal year 2023 for Operation and Maintenance, Defense-wide, and available for the Office of the Secretary of Defense, until the Secretary of Defense notifies the congressional defense committees that designations required by section 1684(e) of the National Defense Authorization Act for Fiscal Year 2017 (Public Law 114-328) have been made.

SUBTITLE D—OTHER MATTERS

Integration of electronic warfare into Tier 1 and Tier 2 joint training exercises (sec. 1551)

The committee recommends a provision that would require the Chairman of the Joint Chiefs of Staff to require integration of offensive and defensive electronic warfare capabilities into Tier 1 and Tier 2 joint training exercises, with certain requirements and a waiver option. The provision would also include a briefing requirement and definitions.

Responsibilities and functions relating to electromagnetic spectrum operations (sec. 1552)

The committee recommends a provision that would retain U.S. Strategic Command's role in joint force planning for electromagnetic spectrum operations with additional reporting.

Extension of authorization for protection of certain facilities and assets from unmanned aircraft (sec. 1553)

The committee recommends a provision that would provide an extension of the authorization for protection of certain facilities and assets from unmanned aircraft.

Department of Defense support for requirements of the White House Military Office (sec. 1554)

The committee recommends a provision that would require the Under Secretary of Defense for Acquisition and Sustainment (USD(A&S)) to designate a senior official to provide oversight of programs the Department of Defense acquires for the White House Military Office (WHMO).

The committee also directs the USD(A&S) to provide a briefing to the congressional defense committees not later than 30 days after the submission of the President's budget requests for fiscal year 2024 through 2027 on acquisition programs, plans, and other activities supporting the requirements of the WHMO.

ITEMS OF SPECIAL INTEREST

Additive manufacturing

The committee recognizes the difficulty of effectively sustaining aging Air Force nuclear weapons delivery systems and supporting infrastructure through the transition to a modernized strategic deterrent in the 2030s. Many of these programs face significant challenges from increasing component failures and extended maintenance outages, which are only compounded by parts shortages and diminishing manufacturing sources. The committee believes modern additive manufacturing methods offer a potentially lower-cost means of replacing defective or damaged components when original vendors no longer exist or are no longer capable of providing such services.

The committee directs the Secretary of the Air Force, in coordination with the Under Secretary of Defense for Acquisition and Sustainment, to provide a briefing, not later than March 1, 2023, to the congressional defense committees on opportunities for expanding the use of additive manufacturing to supplement legacy nuclear weapons delivery systems and supporting infrastructure sustainment efforts, including options for adjusting nuclear certification requirements to expedite qualification of additively manufactured items for components that do not directly interface with nuclear weapons or nuclear command, control, and communications systems.

Briefing on activities under the Mutual Defense Agreement with the United Kingdom

The National Nuclear Security Administration is developing preliminary design and cost information for the Department of Defense to develop the Mark 7 reentry vehicle and W93 submarine launched ballistic missile warhead. This effort is being undertaken in parallel with the United Kingdom's separate

program to replace its sovereign warhead. The committee understands that certain related cooperative efforts are taking place under a sharing agreement with the United Kingdom, commonly referred to as the Mutual Defense Agreement between the United States of America and the United Kingdom of Great Britain and Northern Ireland for Cooperation on the Uses of Atomic Energy for Mutual Defense Purposes, signed at Washington, D.C., on July 3, 1958, and entered into force August 4, 1958.

Therefore, the committee directs the Secretary of Defense and the Administrator for Nuclear Security, not later than March 31, 2023, to provide a briefing to the congressional defense committees on the current status of the sharing agreement relative to work underway on the Mark 7 reentry vehicle, the W93, and the United Kingdom's warhead replacement program, and specifically over the next 5 years what information, technologies, and materials are being shared between the United States and the United Kingdom.

Briefing on Defense Threat Reduction Agency capabilities for supporting future arms control inspection regimes

The committee directs the Director of the Defense Threat Reduction Agency, not later than April 1, 2023, to provide a briefing to the congressional defense committees on the capabilities and resources required to support existing and potential future domestic and overseas arms control inspection regimes. This briefing shall address: (1) Interpreter, inspector, escort, and technical subject matter expert manning and professional development needs; (2) Inspection and verification technology research and development projections; (3) Risks of insufficient resourcing on long-term human capital planning; and (4) Any other related topics the Director sees fit to include.

Briefing on manning options for operating an integrated air and missile defense architecture for Guam

The committee directs the Secretary of Defense, not later than March 1, 2023, to provide a briefing to the congressional defense committees on available options for manning a future integrated air and missile defense architecture for the defense of Guam against growing missile threats in the Indo-Pacific theater. In addition to the use of Active-Duty military personnel, the committee encourages the Department of Defense to consider a wide range of manning options, including the use of local and rotating National Guard forces, as well as options for

reducing manning requirements through the use of increased automation.

Briefing on sensor integration at United States Space Command

Enhancing space domain awareness through the integration of sensors in all domains is a high priority of U.S. Space Command. However, it is not clear to the committee how this integration will take place, over what time frame, and what the war reserve capability is if planned architectures are degraded during a crisis or in a time of conflict.

Therefore the committee directs the Commander, U.S. Space Command, not later than March 31, 2023, to provide a briefing to the congressional defense committees on the planned space domain awareness architecture, including which non-space layer sensors the Command intends to integrate, a process for developing a long-term capability to assess and integrate future sensors, as well as processes for sharing information from these sensors to increase space domain awareness. The committee also directs the Commander, U.S. Space Command, to assess what capabilities exist in a war reserve that can be utilized to supplement space domain awareness in a time of conflict, assuming a degradation of the planned architecture.

Cislunar space

Recent national security interest in cislunar space activities by Russia and China must be accounted for in the development of space policy and operations. Therefore, the committee directs the Secretary of the Air Force, in coordination with the Chief of Space Operations, to provide a briefing to the congressional defense committees, not later than March 31, 2023, on a long-term strategy for cislunar space. The report shall include: (1) An explanation of how the Department of Defense is working with small and innovative/non-traditional space and defense companies; (2) An examination of proposed uses for existing technologies being developed for other Government space applications; and (3) An update regarding challenges and opportunities associated with access to the cislunar space, such as the possible increased use of rideshare on commercial cislunar launch vehicles and spacecraft that have excess payload capacities, in addition to other considerations of how to leverage dual-use technologies.

Commercial radio frequency capabilities

The committee recognizes that radio frequency (RF) remote sensing from space is a new area of commercialization, a complement to national systems that adds resiliency, and an area of competition with foreign actors. The committee is encouraged by some of the examples where RF remote sensing capabilities have supported combatant command missions and exercises, such as those in support of U.S. European Command. The committee believes that the Department of Defense's joint warfighting advantage and new operational concepts will be further strengthened by the integration of these capabilities, but that success will hinge on greater engagement between users and innovators.

Therefore, the committee directs the Chairman of the Joint Chiefs of Staff to provide a briefing to the congressional defense committees, not later than March 31, 2023, on whether U.S. commercial RF satellite capabilities can be further leveraged in combatant command exercises, experimentation, and wargaming, and how these commercial capabilities can be integrated into the information systems and workflows utilized by the combatant commands to support relevant operational mission needs.

Contracting for commercial space data and services

The commercial space industry has rapidly developed and fielded leading-edge technologies and capabilities in areas previously only the Government invested in, including satellite communications, optical and radar imagery, weather monitoring, satellite control, and space situational awareness. Consequently, the Department of Defense (DOD) has some efforts underway to acquire commercial space data and services to address its mission needs. However, its adoption of procuring these products has lagged, resulting in continued reliance on antiquated, Government-owned capabilities and inefficient investments to develop capabilities that may already exist commercially.

The committee directs the Comptroller General of the United States to conduct a review to determine:

- (1) The types of commercial data and services the DOD is procuring;
- (2) The types of contractual relationships the DOD uses; and
- (3) The challenges the DOD faces in more effectively adopting its procurement of commercial space data and services.

The Comptroller General shall provide preliminary observations to the congressional defense committees not later

than May 1, 2023, with a report to follow on an agreed upon date.

Department of Defense efforts to address space readiness concerns

Last year, the Government Accountability Office found, in a report published April 7, 2021, titled "Military Readiness: Department of Defense Domain Readiness Varied from Fiscal Year 2017 through Fiscal Year 2019" (GAO-21-279), that the Department of Defense (DOD) faces space domain readiness concerns in several areas. The committee understands the Space Force is conducting a review to address space readiness issues.

Given the importance of space capabilities for conducting critical DOD missions, the committee directs the Comptroller General of the United States to review the results of the Space Force's review and determine the status and costs of ongoing or planned materiel and non-materiel efforts to address current and future space readiness concerns.

The Comptroller General shall provide preliminary observations to the congressional defense committees not later than May 1, 2023, with a report to follow on an agreed upon date.

Efforts to develop space-based optical communications capabilities

The committee notes that the use of optical laser links for inter-satellite and space-to-ground communications offers distinct advantages over radio frequency-based communications, including higher data transmission rates; increased protection from jamming, interference, and cybersecurity attacks; and lower probability of adversary interception and detection of signals.

Consequently, organizations across the Department of Defense (DOD) are developing space-based laser communication capabilities. However, lack of coordination between these efforts increases the risk of inefficient duplicative or overlapping development and could limit opportunities for effective industry competition, innovation, and interoperability among systems.

Therefore, the committee directs the Comptroller General of the United States to conduct a review of these efforts that shall address the following elements:

(1) The status of DOD efforts to develop laser communications capabilities;

(2) The extent to which these efforts are effectively coordinated; and

(3) Any other matters the Comptroller General deems appropriate.

The Comptroller General shall provide preliminary observations to the congressional defense committees not later than May 1, 2023, with a report to follow on an agreed upon date.

Energy resiliency of bases supporting nuclear deterrence missions

The committee considers efforts to ensure the continued readiness and effectiveness of the U.S. nuclear deterrent to be of paramount importance. Accordingly, the committee encourages the Department of Defense to continue to prioritize initiatives to improve the resiliency and survivability of installations supporting the nuclear deterrence mission, including the development of additional, independent means of meeting installation electrical power requirements. Such secondary energy sources will ensure critical mission continuity in the event of a primary energy source failure caused by a disruption of the electric grid, a cyberattack, or a natural disaster.

The committee directs the Assistant Secretary of Defense for Sustainment, in coordination with the Assistant Secretary of the Air Force for Energy, Installations, and Environment, and the Assistant Secretary of the Navy for Energy, Installations, and Environment, to provide a briefing to the congressional defense committees, not later than March 31, 2023, outlining ongoing initiatives to enhance the energy resilience of Air Force and Navy installations hosting elements of U.S. nuclear forces, both domestically and abroad, as well as identifying opportunities to further enhance installation energy resilience through increased use of natural gas, linear generators, microreactors, alternative grid connections, and renewables.

Evolved Strategic SATCOM program

The Space Force's Evolved Strategic SATCOM (ESS) program is developing a new generation of protected communications satellites for critical national security missions. The satellites ESS will replace took over 10 years and billions of dollars to develop and produce. The committee understands that the ESS program is using a new acquisition pathway to develop the satellites, which encourages shorter development timelines, but is a novel approach for such a complex satellite constellation.

Therefore, the committee directs the Comptroller General of the United States to assess the ESS program's novel

acquisition approach, development status, and any risks and challenges faced by the program under such approach.

The Comptroller General shall provide preliminary observations to the congressional defense committees not later than May 1, 2023, with a report to follow on an agreed upon date.

Global enhanced geospatial intelligence delivery

The committee recognizes the Global Enhanced Geospatial Delivery (G-EGD) program delivers mission essential, time-sensitive information to more than 400,000 users and to 125 programs on the tactical edge and across the U.S. Government. The committee is encouraged with progress made to develop G-EGD into a platform that provides a one-stop shop for commercially available intelligence information that offers seamless access to diverse data sources for the U.S. Government and allied forces.

However, the span and scope of commercially available intelligence is changing rapidly, as evidenced by recent events in Ukraine. The G-EGD program must continue to integrate new and advanced commercial intelligence and data to remain relevant to end users in the Department of Defense. Inclusion of high resolution commercially available synthetic aperture radar and hyperspectral imagery, commercial radio frequency data, and advancements in three dimensional technology are just a few examples. Additionally, the committee recognizes the need to access and exploit this data on all domains to maximize value across the user base, to include the entire intelligence community.

Therefore, the committee directs the Secretary of Defense in consultation with the Director of National Intelligence to submit a report to the congressional defense and intelligence committees, not later than March 31, 2023, on additional commercial intelligence sources and analytic capabilities to be integrated into the G-EGD service. The report shall also identify data standards to effectively and efficiently integrate G-EGD with a broader ecosystem of mission command systems.

Hybrid space architecture cybersecurity

The committee recognizes U.S. Government and commercial space capabilities as vital to U.S. national and economic security, and notes the threat of cyberattacks to continued U.S. superiority in space. To address these threats and retain U.S. primacy in space, the committee believes the U.S. Government should integrate commercial cybersecurity capabilities with

traditional Government systems as part of building a space architecture concept that is a hybrid between Government and commercial satellites.

The committee notes that several national security space organizations have publicly supported a hybrid space architecture concept, including the Space Force, the National Reconnaissance Office, the National Geospatial-Intelligence Agency, and the Space Development Agency. However, the committee further notes that funding for leveraging commercial cyber protection technologies lags launch and satellites in budget submissions. Accordingly, it is the view of the committee that funds authorized in this Act, to the extent appropriated, should be executed in a manner consistent with promotion of commercial cyber protection to secure this architecture. Therefore, the committee directs the Secretary of the Air Force to submit a briefing, not later than March 31, 2023, on the Department of the Air Force's efforts to employ commercial cybersecurity capabilities to provide rapid cyber protection for hybrid space architecture.

Hypersonic and Ballistic Tracking Space Sensor

The budget request for the Missile Defense Agency (MDA) included \$89.2 million to continue development of the Hypersonic and Ballistic Tracking Space Sensor (HBTSS) program, which supports the deployment of two demonstration space vehicles capable of detecting and tracking targets against a cluttered background. The committee continues to support the development of these prototypes, which it understands to be the only system under development capable of providing fire-control quality tracking data for hypersonic and ballistic threats from space.

While the committee continues to believe that responsibility for deploying and operating satellite constellations beyond the prototype stage resides with the Space Force, it is concerned that no plan exists to fully field sensors that provide the technical capabilities the MDA developed through the HBTSS program, or provide a similar level of fire-control data for both ballistic and hypersonic threats from space. In view of the growing and increasingly sophisticated ballistic and hypersonic missile threats, the committee directs the Secretary of the Air Force and the Chief of Space Operations, in coordination with the Director of the Missile Defense Agency, to provide a briefing to the congressional defense committees not later than February 28, 2023, or concurrent with the fiscal year 2024 budget submission, on an acquisition strategy and a plan to deploy sensors that provide the technical capabilities the MDA developed through the

HBTSS program within an operational constellation capable of providing warfighters fire-control quality tracking data. To the extent practicable, the acquisition strategy shall take maximum advantage of the investments made by the MDA through the HBTSS program, and leverage existing rapid acquisition authorities where appropriate to deliver capability to the warfighter in the quickest and least expensive manner possible.

Integrated missile defense efforts

The committee notes that the Department of Defense is investing in capabilities to defend against adversary missiles across the full engagement spectrum, including prior to launch. By investing in innovative capabilities both "left-of-launch" and "right-of-launch," the Department adds cost-effective options for missile defense and improves Homeland security.

The committee directs the Director of the Missile Defense Agency to provide a briefing to the committee, not later than January 31, 2023, on efforts to model integrated missile defense efforts. In particular, the briefing shall address:

(1) Current efforts to model integrated threat detection and disruption both left- and right-of-launch;

(2) Efforts to share modeling capabilities between the Missile Defense Agency, the military services, and geographic combatant commands; and

(3) Use of commercial technologies in modeling integrated missile defense architectures to determine effectiveness and future technology development priorities.

Intercontinental ballistic missile cable replacement

The Minuteman III intercontinental ballistic missile (ICBM) weapon system, particularly in the launch facility, relies on large, heavy cables dating to the 1960s. This also includes cables in the maintenance areas where the warhead and its assembly are tested to ensure they can perform in a simulated flight profile. Many of these cables are one of a kind with large complex end-pin structures, so any breakage or misalignment due to wear and tear will cause long periods of repair of the original cable, further exacerbating readiness of an already aged system.

The committee directs the Secretary of the Air Force to provide a briefing to congressional defense committees, not later than March 31, 2023, on efforts to ensure these aged cables are catalogued and can be replaced in a timely way given the diminished industrial base from which they were derived. Unlike other aged metal parts that be replaced using modern 3-D

printers, the ICBM cables are unique, consisting of multiple embedded cables in a large strand and cannot be printed. In addition, the briefing shall cover to what extent the ICBM replacement program, the Sentinel ICBM weapon system, will rely on these cables found in the launch facilities and maintenance hangers.

Joint Defense Business Board and Defense Innovation Board review of space acquisition

In 2020, the Congress authorized a fundamental reorganization of the way the Department of Defense (DOD) conducts space operations and the acquisition to support those operations. The National Defense Authorization Act for Fiscal Year 2020 (Public Law 116-92) created not only the U.S. Space Force, but section 957 created a separate Service Acquisition Executive (SAE) for Space for this new service. The primary intent was to centralize space acquisition for the Armed Forces under the Space SAE.

Subsequently, section 1601 of the William M. (Mac) Thornberry National Defense Authorization Act for Fiscal Year 2021 (Public Law 116-283) transferred the Space Development Agency (SDA) on October 1, 2022, to the U.S. Space Force, such that the Space SAE had oversight of the SDA, the Space Rapid Capabilities Office (RCO) and the Space Systems Command (SSC).

Sections 1602 and 1603 of the National Defense Authorization Act for Fiscal Year 2022 (Public Law 117-81) further consolidated space acquisition. They elevated the role of the Space SAE to have oversight of space acquisition across the Armed Forces, renamed the Space Force Acquisition Council to the Space Acquisition Council, and chartered it to review all space acquisition projects of the Armed Forces. Finally, the sections required the Secretary of Defense to designate the Chief of Space Operations as the Force Design Architect for Space, similar to roles other service chiefs perform for their force structures.

These three consecutive NDAA's have resulted in a fundamental reform of space acquisition for the Armed Forces of the DOD. However, when senior acquisition leadership presents space acquisition efforts to the congressional defense committees, they refer to decision making process as a "unity of effort" between the SSC, Space RCO, SDA, and Missile Defense Agency.

Therefore, the committee directs the Defense Business Board and the Defense Innovation Board to review the unity of effort decision making process. This review shall specifically ask whether the unity of effort process is agile enough for the

rapid development of space acquisition systems to keep pace with today's space industry. In performing this review, the two Boards shall consider all options, from retaining the existing unity of effort structure to developing a clean sheet approach to space acquisition.

The committee directs the two boards to provide a briefing to the congressional defense committees on their findings not later than March 31, 2023.

Land-based systems for hypersonics testing

The committee understands that currently, the most feasible long-range capability for hypersonic testing requires the use of ships and aircraft positioned along the flight route of the hypersonic vehicle to track and receive data. This is a logistics challenge that is extremely expensive to mobilize for each test. Land-based instrumentation provides higher reliability and lower cost than ships and/or airborne platforms.

Therefore, to promote cost-effective hypersonic capabilities, the committee encourages the Test Resource Management Center (TRMC) to accelerate the development of launch and down range tracking facilities to support robust testing of both offensive and defensive hypersonic weapons. This should include launch facilities, a network of ground sites and unmanned aerial systems for tracking, telemetry, and flight termination, as well as communications, staffing, and support plans. The TRMC is encouraged to maximize existing regional capabilities, conduct site surveys and site designs, initiate procurement of long-lead items of transportable instrumentation systems and communication capabilities, initiate environmental assessments, and conduct other activities that shorten development timelines and bring the range on-line quickly to counter emerging threats.

The committee recognizes that Alaska provides a unique geographical location where hypersonic testing can be conducted without overflying populated areas and offers the Department of Defense with unrestricted flexibility to meet hypersonic mission objectives. Furthermore, the Aleutian Test Range can support air-, sea-, undersea- and land-launched systems to provide maximum test flexibility.

Minuteman III sustainment

The committee appreciates the efforts of the Department of Defense (DOD) and the Department of the Air Force to modernize and replace the nation's aging Minuteman III intercontinental ballistic missile (ICBM) weapon system with the Sentinel ICBM

weapon system. On Sentinel's current schedule, the Minuteman III will continue to be in service until the mid-2030s, at which point it will have been on alert for over 65 years.

It is imperative that the DOD and the Air Force continue to effectively sustain the Minuteman III throughout this period in order to meet U.S. Strategic Command requirements, particularly as the global nuclear threat environment continues to worsen. However, the committee has come to understand that the Air Force has deprioritized ICBM sustainment and has reduced Minuteman III Centralized Asset Management (CAM) funding allocations from 90 percent of requirements to approximately 75 percent. Such reductions add unnecessary and unwarranted risk to ICBM readiness and could undermine the capability of the missile wings to ensure timely demilitarization and turnover of ICBM ground equipment for recapitalization in preparation for Sentinel deployment. The committee strongly believes this approach jeopardizes larger investments in the future of U.S. nuclear capabilities and should be rectified as soon as possible.

Accordingly, the committee directs the Secretary of the Air Force, in coordination with the Under Secretary of Defense for Acquisition and Sustainment and the Commander of United States Strategic Command, to provide a briefing to the congressional defense committees, not later than February 1, 2023, on Air Force approaches to determining CAM funding prioritization; potential risks to Sentinel ground system recapitalization and deployment schedules from insufficient CAM allocations; operational implications from sustainment-related degradations in Minuteman III readiness or delays in Sentinel deployment; and options for restoring ICBM CAM allocations to a minimum of 90 percent of requirements throughout the transition period to Sentinel.

Missile defense roles and responsibilities

A number of agencies and military services have varied roles and responsibilities for missile defense, to include ballistic and hypersonic missiles, cruise missiles, and remotely piloted aircraft. The explicit lines of responsibility are not clear for overall coordination of defense against this increasingly wide range of threats.

Therefore, the committee directs the Secretary of Defense to provide a report to the congressional defense committees, not later than March 31, 2023, on missile defense roles and responsibilities across the Department of Defense (DOD). The report shall identify each service's specific responsibilities for air and missile defense, explain how those responsibilities

are translated into capabilities, and clarify how these capabilities are integrated to protect the Joint Force and U.S. Homeland from air and missile attack. The report shall also evaluate gaps in the DOD's ability to defend the U.S. Homeland and forward deployed forces against cruise, ballistic, and hypersonic missile threats and identify all plans to mitigate those gaps, including implementation timelines and how the DOD will address acquisition and sustainment barriers.

Narrowband gapfiller

The committee is concerned by the findings of a recent investigation by the Government Accountability Office (GAO) into the viability of the Mobile User Objective System (MUOS) (GAO-21-105823, "Satellite Communications: DOD Should Explore Options to Meet User Needs for Narrowband Capabilities"). The GAO, which was tasked by the committee to review the capabilities of the system, found that despite spending \$7.4 billion on the network, the capabilities were not realized by the warfighter. The GAO concluded that the Secretary of Defense should implement "an additional option for providing narrowband satellite communication capabilities in the near term."

Therefore, the committee directs the Secretary of the Air Force to provide a report to the congressional defense committees, no later than March 31, 2023, on the cost and capabilities for a functional narrowband gapfiller demonstration option with at least partial polar coverage by January 1, 2025. The report should also examine the feasibility for such a system with a full global coverage option by 2026.

Perimeter Acquisition Radar Attack Characterization System

The AN/FPQ-16 Perimeter Acquisition Radar Attack Characterization System (PARCS) is a ground-based, single-faced, multi-function, Ultra High Frequency-band, phased array radar located at Cavalier Space Force Station, North Dakota. PARCS is responsible for monitoring and tracking more than half of all earth-orbiting objects.

PARCS is able to detect and track both intercontinental and sea-launched missile threats, and pass information to North American Aerospace Defense Command (NORAD), U.S. Strategic Command (STRATCOM), and regional combatant commanders. As part of the missile warning mission, PARCS provides attack characterization data to the Integrated Tactical Warning and Attack Assessment system. PARCS supports space domain awareness by sending satellite track data to the Combined Space Operations Center.

This system was originally built by the Army as part of the Safeguard missile defense system defending U.S. missile fields in North Dakota. The Safeguard system was decommissioned shortly after it was activated in 1976. The radar was then transferred to the Air Force to support the missile warning and space surveillance missions.

PARCS mission equipment and associated sustainment suites consist of a mix of unique, custom-built components that are increasingly more difficult to maintain due to availability of replacement parts and obsolete commercial off the shelf-based subsystems that are no longer supported by the original equipment manufacturers. In addition, radar transmit and receive components, processing equipment, and power distribution elements, and other radar front-end equipment are more than 30 years old, highly inefficient, and require replacement. Without these replacements, there is a high risk that equipment failures will cause unacceptable mission downtime in order to troubleshoot and repair.

There is an unfunded PARCS Analog Conversion Digital Capability upgrade that would address these challenges with a design to align capabilities to modern threats while significantly reducing sustainment costs. The expected improvements would include: (1) Expanded mission capabilities; (2) High velocity target detection; (3) Potential to resolve multiple targets within main beam; (4) 50 percent reduction in resources to non-threats; (5) Increased scan volume search speed, target prioritization; (6) Range resolution improvement by a factor of 40; (7) Increased maximum detectable distance by over 90 percent for fixed objects; (8) Capability to implement hyper glide tracking algorithms for increased missile warning abilities; (9) Elimination of primary unscheduled downtime source; (10) 97.7 percent parts reduction; (11) Elimination of approximately 80 percent of diminishing manufacturing sources and material shortages.

The committee is concerned critical, multi-purpose equipment like the PARCS radar, is being neglected beyond the point of being upgradable, leading to a dangerous gap in capability when it does fail. To ensure the consequences of this neglect are understood, the committee directs the Secretary of the Air Force, in consultation with the Chief of Space Operations, the Commander, U.S. Space Command, the Commander, NORAD and U.S. Northern Command, and the Commander, STRATCOM, to provide a report to this committee, not later than March 31, 2023, on the feasibility of upgrading the PARCS radar, the consequences of not upgrading the radar, and the defensive gaps that would result if the PARCS radar failed.

Report on Department of Defense hypersonic testing facilities

The committee supports the Department of Defense's (DOD) continued advancements in hypersonic missile development, and notes the particular need for precise testing and evaluation of these missiles in a controlled environment. Currently, the U.S. defense industrial base does not feature a test facility dedicated to demonstrating boost phase propulsion for airbreathing ramjet systems. Ramjet engines are a form of airbreathing jet engine that uses forward motion to compress incoming air to generate thrust, as opposed to relying on an axial compressor as in a traditional jet engine. Because these engines cannot produce thrust at zero airspeed, ramjet powered weapons require the use of a booster rocket to accelerate to a speed where the ramjet engine begins to produce thrust. Thorough testing of a fully integrated flight-representative ramjet or scramjet powered missile requires evaluating the entire transition phase, from the firing of the booster rocket to the ignition of the ramjet engine.

The committee notes that the Government-owned, contractor-operated Allegany Ballistics Laboratory (ABL) holds decades of experience in rocket motor development, testing and production and could serve as a prime location to establish a test facility for fully integrated flight-representative airbreathing hypersonic weapons.

Therefore, the committee directs the Secretary of Defense to provide a feasibility report, not later than February 1, 2023, that determines the value to the DOD of expansion of ABL's Advanced Propulsion Research Complex to establish an advanced airbreathing propulsion test facility. Specific upgrades would include expansion of the facility's air storage capacity, installment of a steam ejector system that will simulate high altitude flight, and upgrading a thrust stand to enable precise measurements of thrust.

Report on enhanced radar space situational awareness

The committee supports ongoing efforts by the National Science Foundation, its National Radio Astronomy Observatory, and industry partners to develop the Next Generation Very Large Array (ngVLA) and a new high-power radar transmitter for the Green Bank Telescope. This concept incorporates new technologies to produce a high-power, high-availability radar system capable of providing radar observations deep into the cislunar space region—suitable for scientific and surveillance purposes—beyond what existing systems can provide.

Additionally, the committee believes that coupling the high-power radar transmitter with the current Very Large Baseline Array and the future ngVLA could provide the Department of Defense (DOD) and its services with important national security capabilities for navigation and space domain awareness (SDA).

Therefore, the committee directs the Secretary of Defense to evaluate and report on the risks and vulnerabilities of its current ground-based radar infrastructure and the DOD's project program needs, with a particular emphasis on needs that the new Green Bank radar system may be able to address. The Secretary of Defense shall provide a report to the congressional defense committees not later than March 1, 2023. The report shall include, at a minimum, the following:

- (1) A review of current SDA capabilities and shortfalls;
- (2) Plans, funding, and timelines for future SDA radar observation capabilities;
- (3) An assessment of potential development activities and their ability to support DOD SDA requirements;
- (4) Recommendations on a roadmap to acquire and field enhanced SDA radar observation capabilities to meet DOD national security requirements; and
- (5) Necessary efforts to develop and maintain the science, technology, engineering, and math workforce to develop, operate and maintain these new capabilities.

Report on future space launch strategy

Over the next 15 years, the Department of Defense (DOD) plans to develop a proliferated constellation of low and medium orbit satellites to detect and track, with fire-control quality, both ballistic and non-ballistic missiles. This constellation will have a more limited life span than systems that are used in geostationary orbit and will require multiple replenishment launches over the life of the constellation.

In addition, the Department must satisfy ongoing requirements associated with geostationary orbit and beyond. Placing payloads, many of which are of high mass, into these far orbits requires large amounts of energy, and the DOD has invested billions of dollars into ensuring successful mission completion, and by all accounts has been successful.

The committee is interested in this balance between low orbit constellations and medium and geostationary assets that must be reconciled in a future acquisition strategy by the DOD that balances cost, risk, and innovation after the 2030s.

Therefore, the committee directs the Secretary of the Air Force to report to the congressional defense committees no later than March 31, 2023 on how it plans to develop an acquisition strategy between low earth and high energy launches into medium, geostationary and beyond after 2040. This report should also outline any future research area relative to this acquisition strategy.

Report on military applications of uranium-233 and thorium

The committee directs the Secretary of Defense to report to the committee, no later than March 31, 2023, on using uranium-233 and a thorium-based nuclear fuel cycle by the United States Armed Forces.

This report should address: (1) Potential molten-salt breeder reactors fueled by uranium-233 to provide energy for military installations in and outside the United States; (2) Current risks to members of the United States Armed Forces transporting fuel and operating such power reactors in theaters of conflict; (3) Risks of potential nuclear proliferation of an overseas-based reactor powered by uranium-235 relative to such a reactor powered by uranium-233; (4) The potential value of employing reactors in military space assets for propulsion and power using a thorium-based nuclear fuel cycle; and (5) The status of peer and near-peer adversary technological development with regard to possible military applications of a thorium-based nuclear fuel cycle.

Report on United States Space Command space intelligence directorate staffing

The U.S. Space Command was re-instituted in 2020, the same year as the authorization of the U.S. Space Force. As part of its manning, the development of a space intelligence directorate or J2 is in its nascent stages. Accordingly, ensuring U.S. Space Command is adequately staffed to understand the threats as it develops contingency and operational plans is paramount.

Therefore the committee directs the Commander, U.S. Space Command, in consultation with the Director of National Intelligence, to provide a report to the congressional defense and intelligence committees, not later than March 31, 2023, on a 5-year staffing plan to ensure it can adequately inform the Commander, U.S. Space Command, in meeting responsibilities under the Unified Command Plan.

Report on United States Strategic Command's Nuclear Command, Control, and Communications special acquisition capability

The U.S. Strategic Command was tasked in the 2018 Nuclear Posture Review to be the lead Department of Defense (DOD) organization for establishing requirements and future capability architectures for the Nuclear Command, Control, and Communications (NC3) system. The development of future NC3 requirements and capabilities, particularly those with respect to future architectures across the entire DOD, require the ability to test nascent concepts that are pre-demonstration through the validation phase across multiple military services.

Therefore, the committee directs the Vice Chairman of the Joint Chiefs of Staff, acting through the Commander, U.S. Strategic Command, in consultation with the Director of the DOD Office of Cost Assessment and Program Evaluation and the Under Secretary of Defense for Acquisition and Sustainment, to submit a report to the congressional defense committees, not later than March 31, 2023, on whether additional acquisition authorities are required for U.S. Strategic Command to develop specialized software and hardware integration capabilities that will enable it to refine current and future NC3 hardware and architectures that can then be transferred to the services for acquisition.

Review of information sharing procedures between the United States and the United Kingdom

The committee recognizes the importance of the parallel efforts of the United States and the United Kingdom as they independently pursue development of the W93 and the sovereign replacement warhead, respectively. However, the committee also understands that the policies and procedures that govern information sharing under the Atomic Energy Act of 1954 (Public Law 83-703) and the Mutual Defense Agreement between the United States of America and the United Kingdom of Great Britain and Northern Ireland for Cooperation on the Uses of Atomic Energy for Mutual Defense Purposes, signed at Washington, D.C., on July 3, 1958, and entered into force August 4, 1958, have not evolved substantially. The committee believes that in order to ensure cooperative efforts between the United States and United Kingdom are able to proceed as efficiently as possible, information control policies and procedures should be periodically reviewed to account for advances in communications technology.

The committee directs the Secretary of Defense to review the statutory, regulatory, and policy frameworks governing the sharing of atomic energy information for defense purposes between the United States and United Kingdom, assess the potential impact on cooperative efforts related to each country's independent weapons development program, and develop options to streamline information sharing processes and

procedures in a manner that accounts for modern requirements and communications capabilities, while maintaining a high level of confidence that such information will continue to be protected accordingly.

The Secretary of Defense shall submit a report on the findings of this review to the congressional defense committees, along with any applicable recommendations developed, not later than February 28, 2023.

Space Development Agency Middle Tier Acquisition Authority

The committee notes that the William M. (Mac) Thornberry National Defense Authorization Act for Fiscal Year 2021 (Public Law 116-283), required the Space Development Agency to be transitioned to the Space Force not later than October 2022. Critical to the ability of the Space Development Agency to execute its mission is the ability to utilize Middle Tier Acquisition (MTA) Authority and Other Transaction Authority (OTA) to rapidly execute its mission. On April 12, 2022, the Director of the Space Development Agency designated the National Defense Space Architecture, Tranche 1 Tracking Layer, which consists of 28 satellites, to perform missile warning and tracking as a Middle Tier Acquisition Program consistent with Department of Defense Instruction 5000.80. The committee believes it is essential that the Secretary of the Air Force, acting through the Service Acquisition Executive for Space, fully support the Space Development Agency's utilization of these and other authorities to ensure the rapid fielding of existing and future satellite systems and architectures, while ensuring that there is also a clear transition plan, life-cycle cost estimate, and test plan.

Therefore, the committee directs the Secretary of the Air Force to provide a briefing to the congressional defense committees, not later than March 31, 2023, on the transition of the Space Development Agency to the Space Force and efforts to ensure it can continue to rapidly execute its mission through the use of Middle Tier Acquisition Authority and hire necessary personnel at the Senior Executive Service level as well as the necessary management support including financial systems and contracting.

Space Force report on future architecture of narrowband communications satellites

The transfer of the fleet of narrowband communications satellites from the Navy to the Space Force will occur over the next 2 to 3 years. In particular, the availability of the

constellations of the existing Ultra-High Frequency Follow On Satellites will gradually decline over the next 5 years with the requirement that the constellation of the Mobile User Objective System (MUOS) of narrowband satellites take their place. The Space Force plans to add MUOS satellites six and seven to the existing constellation. However, the committee is unclear what the out-year costs of the transfer will be, as well as the status of a follow on analysis of alternatives consistent with the Government Accountability Office (GAO) report, published September 2, 2021, titled "Satellite Communications: DOD Should Explore Options to Meet User Needs for Narrowband Capabilities" (GAO-21-105283).

Therefore the committee directs the Space Force to submit a report to the congressional defense committees, not later than March 31, 2023, outlining the 5-year cost through fiscal year 2027 of this transfer and operations as well as a date certain for the start of an analysis of alternatives for a follow on architecture for narrow band communications in the Department of Defense.

Space launch

The committee believes that with respect to entering into contracts for launch services and consistent with the 2020 National Space Policy, it shall be the policy of the Department of Defense to foster a robust, innovative, and competitive commercial launch sector that reduces taxpayer costs and limits the Government's role in market distortion wherever possible, while also supporting the national interests of the United States and advancing the United States' role as a preeminent leader in space.

The committee recognizes that the face of the space domain is changing rapidly, and careful consideration needs to be given to the future of access to space for national security purposes. Therefore, the committee directs the Chief of Space Operations, in coordination with the Space Acquisition Executive, to submit a report to the congressional defense committees, not later than March 31, 2023, with a detailed assessment of the feasibility and advisability of using agile and adaptable acquisition strategies for innovative launch capabilities.

Status of the ICBM Transporter-Erector and Payload Transporter system

Meeting U.S. Strategic Command readiness standards for intercontinental ballistic missiles (ICBMs) necessitates that Air Force Global Strike Command maintains the capability to

safely and efficiently transport Minuteman III solid rocket boosters over long distances, as well as to load and unload missile silos with extremely tight tolerances. Each Minuteman III ICBM is approximately 60 feet long and weighs nearly 80,000 pounds, so the capability to consistently execute these activities requires that airmen have access to durable, resilient support equipment that can withstand repeated use and the often austere environments where missile fields are found.

The Air Force Transporter-Erector Replacement Program and the Payload Transporter Replacement Program are expected to modernize existing missile booster and reentry system handling equipment and support ICBM operations through the transition to the Sentinel ICBM weapon system. A critical element of these systems are the hoists each will employ to lift and position the ICBM components—hoists that will need to stand up to repeated use and extremely heavy loads without fail. However, the committee understands the hoist will be re-used from an older ICBM transporter-erector system. It is critical that the committee be assured that this equipment can perform the duties expected over the existing life of the Minuteman III ICBM.

Accordingly, the committee directs the Secretary of the Air Force, not later than March 31, 2023, to provide a briefing to the congressional defense committees on the Transporter-Erector Replacement Program and the Payload Transporter Replacement Program, in particular the hoist system for unloading and loading the ICBM, and anticipated security enhancements provided by these programs. Further, the committee directs, as part of this briefing, an update on efforts to develop the two similar systems for the Sentinel ICBM weapon system or whether the existing transporter-erector and payload transporter will be used or modified.

Survivable Airborne Operations Center

The committee continues to support the timely acquisition of the Survivable Airborne Operations Center (SAOC) weapons system as a replacement for the E-4B National Airborne Operations Center, which is approaching the end of its serviceable life.

The committee is aware the Air Force plans to release its Request for Proposal (RFP) in the fourth quarter of fiscal year 2022, and is currently conducting industry-supported market research to support the RFP's release, as well as documentation development for milestone decisions.

The committee notes that the SAOC threshold fleet size requirement is six aircraft and objective fleet size is eight aircraft, and that the Air Force is considering awarding a

single contract for the entire weapons system development in 2024, including options to acquire production aircraft beginning in 2029.

While the committee understands this represents a notional purchase schedule, it is nevertheless concerned that it may not be feasible, considering the very limited supply of suitable commercial derivative very large four-engine aircraft. The committee believes it is important to ensure that production decisions are made before opportunities to acquire candidate aircraft becomes significantly more challenging.

Accordingly, the committee directs the Air Force to provide a briefing to the Senate Armed Services Committee, not later than December 1, 2022, on the results of its market research, and the feasibility and advisability of awarding an initial contract that would meet the threshold fleet size requirement.

Update on the Department of Defense's use of hosted payloads

Hosting, or placing, Department of Defense (DOD) sensors or communications packages—called payloads—on non-DOD satellites is a way the DOD can achieve on-orbit capability faster and more affordably. Using hosted payloads would also help facilitate a proliferation of payloads on orbit, making it more difficult for an adversary to defeat a capability.

On July 30, 2018, the Government Accountability Office (GAO) released a report, titled "Military Space Systems: DOD's Use of Commercial Satellites to Host Defense Payloads Would Benefit from Centralizing Data" (GAO-18-493), that found that the DOD had limited experience using the hosted payload concept for operational space missions. It also found that opportunities for the DOD to use hosted payloads may emerge as it planned new and follow-on space systems, but that the DOD's knowledge on using hosted payloads was fragmented, in part because programs were not required to share information. The GAO recommended that the DOD require programs using commercially hosted payloads to contribute resulting lessons learned data to a central location. The DOD implemented the recommendation.

The committee directs the Comptroller General of the United States to provide an update on:

- (1) The extent to which the DOD is using hosted payloads; and
- (2) The extent to which the DOD continues to face barriers for considering and adopting the hosted payload concept.

The Comptroller General shall provide preliminary observations to the congressional defense committees not later

than May 1, 2023, with a report to follow on an agreed upon date.

TITLE XVI—CYBERSPACE-RELATED MATTERS

SUBTITLE A—MATTERS RELATING TO CYBER OPERATIONS AND CYBER FORCES

Annual assessments and reports on assignment of certain budget control responsibility to Commander of United States Cyber Command (sec. 1601)

The committee recommends a provision that would direct the Commander, U.S. Cyber Command, in coordination with the Principal Cyber Advisor of the Department of Defense, to assess the implementation of the transition of responsibilities assigned to the Commander.

The provision would also direct the Commander to submit a report to the Committees on Armed Services of the Senate and the House of Representatives, not later than 90 days after the end of each fiscal year, beginning in fiscal year 2023, on the findings of the Commander, with respect to the assessment for that fiscal year.

Alignment of Department of Defense cyber international strategy with National Defense Strategy and Department of Defense Cyber Strategy (sec. 1602)

The committee recommends a provision that would require the Secretary of Defense to undertake efforts to align the Department of Defense cybersecurity cooperation enterprise and the Department's cyberspace operational partnerships with the National Defense Strategy, Department of Defense Cyber Strategy, and the 2019 Department of Defense International Cyberspace Security Cooperation Guidance. The provision would also require annual briefings and reports to the Committees on Armed Services of the Senate and the House of Representatives on the implementation of this provision and cyber international strategy activities of the Department.

The committee recognizes that as the Department of Defense works to adapt and respond to evolving cybersecurity challenges, cyber defense partnerships with foreign partners play an integral role in enabling U.S. Cyber Command's operational mission; enhancing foreign partner capacity to prevent, mitigate, and respond to cyberattacks; and ensuring common

defense in cyberspace. The committee also recognizes the importance of Department of Defense efforts to undertake cyberspace security cooperation efforts. However, the committee is concerned that these efforts are currently not well aligned, and could be better coordinated to improve the Department's ability to work with U.S. allies and partners to strengthen cyber capacity, expand combined cyberspace operations, and increase bi-directional information sharing in order to advance mutual interests. The committee is also concerned that the Department's internal capacity to support international strategy policy engagements with allies and partners is not adequate to meet the current needs and encourages the Department to work towards growing these capacities.

The committee remains interested in continued efforts by the Department to enhance the cybersecurity capacity of foreign partners. The committee encourages the Department of Defense to fully use authorities in section 333 of title 10, United States Code, which authorize security cooperation with foreign partners on cyberspace security and defensive cyberspace operations. Accordingly, the committee directs the Under Secretary of Defense for Policy, Director, Defense Security Cooperation Agency, and Commander, U.S. Cyber Command, to provide a briefing to the committee, not later than December 1, 2022, that includes details on the Department's existing cybersecurity capacity building efforts for foreign partners, including information on development and execution of engagement plans; training, joint exercises, and partnership programs; and plans to expand capacity building efforts.

Correcting cyber mission force readiness shortfalls (sec. 1603)

The committee recommends a provision that would require the Secretary of Defense and the Chairman of the Joint Chiefs of Staff to develop a plan and recommendations to correct readiness shortfalls in the Cyber Mission Forces and implement such recommendations.

Cybersecurity cooperation training at Joint Military Attaché School (sec. 1604)

The committee recommends a provision that would require the Under Secretary of Defense for Intelligence and Security, in coordination with the Commander, U.S. Cyber Command, and the Under Secretary of Defense for Policy, to develop and incorporate cybersecurity cooperation training at the Joint Military Attaché School (JMAS).

Cyberspace international strategy engagement with allies and partners is a key element of the 2018 Department of Defense Cyber Strategy. The committee is aware of increased focus on growing these activities and of a current experience gap in the cyber mission space of many military attachés. The committee believes that coverage of cybersecurity cooperation within existing JMAS training is not adequate, given the growing focus on cyberspace operations and security cooperation activities conducted by the Department. Therefore, the committee encourages the Department to strengthen this element of the JMAS program.

Strategy, force, and capability development for cyber effects and security in support of operational forces (sec. 1605)

The committee recommends a provision that would require the Deputy Secretary of Defense, in coordination with the Vice Chairman of the Joint Chiefs of Staff, to develop a strategy for converged cyber and electronic warfare conducted by and through deployed military and intelligence assets operating in the radio frequency domain to provide strategic, operational, and tactical effects in support of combatant commanders.

The committee strongly endorses the initiative to capitalize on radio frequency-enabled cyber effects opportunities and to create a framework to ensure that the Department of Defense's science and technology organizations have a pathway available to mature and transition new capabilities and are incentivized to continuously produce such capabilities. This provision is intended to ensure that there are also transition partners in the Department's operational forces and appropriate command and control relationships in place to successfully apply these capabilities.

In addition, the committee believes it is essential for the Department to determine its requirements and roles for what are referred to as "service-retained" cyber forces for both defensive and offensive support to combatant commands. The committee expects that these service-retained forces would become part of the personnel rotation through elements of the Cyberspace Operations Forces for career progression. These forces would also fulfill critical roles in protecting deployed and often disconnected weapons systems and platforms and supporting offensive cyber operations executed by military units and systems.

Total force generation for the Cyberspace Operations Forces (sec. 1606)

The committee recommends a provision that would require the Under Secretary of Defense for Policy, the Under Secretary of Defense for Personnel and Readiness, the Director of the Joint Staff, and the Secretaries of the military departments, in coordination with the Principal Cyber Advisor of the Department of Defense and the Commander, U.S. Cyber Command (CYBERCOM), to complete a study on the responsibilities of the military services for organizing, training, and presenting forces to CYBERCOM and submit recommendations on a future force generation model for cyberspace operations forces. The provision would also require the Secretary of Defense to establish a new or revised force generation model for the cyberspace operations forces and submit an implementation plan on the new or revised model.

The committee is concerned about continued readiness challenges with cyberspace operations forces, particularly with the Navy contributions to the Cyber Mission Force. The committee believes that the mission of the Cyber Mission Force and Cyberspace Operations Force has evolved significantly, and that it is an appropriate time to use the operational and organizational lessons learned since U.S. Cyber Command was established in 2010 to re-evaluate the responsibilities of the military services for organizing, training, and presenting forces to U.S. Cyber Command.

Management and oversight of Joint Cyber Warfighting Architecture (sec. 1607)

The committee recommends a provision that would require the Deputy Secretary of Defense to establish a program executive office (PEO) to manage and provide oversight of the implementation and integration of the Joint Cyber Warfighting Architecture and components of the Architecture.

In proposing the creation of a PEO that is independent of any one service and that reports to the Commander, U.S. Cyber Command (CYBERCOM), and the Under Secretary of Defense for Acquisition and Sustainment, the committee does not intend to preclude nesting this PEO within CYBERCOM itself.

The committee also intends that the PEO personnel have expertise in and are committed to agile development processes and systems integration and have expertise in cyberspace technology and operations.

Study to determine the optimal strategy for structuring and manning elements of the Joint Force Headquarters-Cyber Organizations, Joint Mission Operations Centers, and Cyber Operations-Integrated Planning Elements (sec. 1608)

The committee recommends a provision that would require the Principal Cyber Advisor of the Department of Defense to conduct a study to determine the optimal strategy for structure and manning elements of the Joint Force Headquarters cyber organizations, joint mission operations centers, and Cyber Operations-Integrated Planning Elements.

The committee is frustrated that the previous report on this topic, as required by section 1656 of the National Defense Authorization Act for Fiscal Year 2020 (Public Law 116-92), did not address many of the required elements. The committee encourages the Department to fully address all of the elements required by this study and to provide robust recommendations on an optimal strategy for providing cyber support to the geographic combatant commands.

Annual briefing on relationship between National Security Agency and United States Cyber Command (sec. 1609)

The committee recommends a provision that would require the Secretary of Defense to provide a briefing to the congressional defense committees, not later than March 1, 2023, and not less frequently than 1 year thereafter until March 1, 2028, on the relationship between the National Security Agency and U.S. Cyber Command.

The committee is aware that concerns have been raised about whether the dual hat leadership arrangement, where the National Security Agency and U.S. Cyber Command are led by the same person, adversely impacts either organization. The committee believes that over the last few years, the dual hat leadership arrangement has demonstrated improved effectiveness both in support of military operations and in defense of the Nation. The committee understands that in the cyber domain success depends on speed, agility, and unity of effort, all of which are enhanced with the dual hat relationship. The committee also understands that having a single individual accountable for the mission outcomes of both organizations allows that individual to allocate resources and assess and mitigate risk to provide unity of effort in operations. The committee believes that the dual hat relationship ensures a strategic alignment between these organizations and is essential to the Nation's success in strategic competition.

Review of certain cyber operations personnel policies (sec. 1610)

The committee recommends a provision that would require the Secretary of Defense to complete a review, not later than

180 days after the date of the enactment of this Act, of the Departmental guidance and processes consistent with section 167b(d)(2)(A)(x) of title 10, United States Code, with respect to the authority of the Commander, U.S. Cyber Command, to monitor the promotions of certain cyber operations forces and coordinate with the Secretaries regarding the assignment, retention, training, professional military education, and special and incentive pays of certain cyber operations forces. The provision would also require the Secretary of Defense to submit to the congressional defense committees a report on the review not later than 90 days after the date on which the review is completed.

Military cybersecurity cooperation with Kingdom of Jordan (sec. 1611)

The committee recommends a provision that would require the Secretary of Defense, acting through the Under Secretary of Defense for Policy, in coordination with the Commanders, U.S. Cyber Command and U.S. Central Command, and the Secretary of State, to seek to engage their counterparts within the Ministry of Defence of the Kingdom of Jordan for the purpose of expanding cooperation on military cybersecurity activities.

Commander of the United States Cyber Command (sec. 1612)

The committee recommends a provision that would amend section 167b of title 10, United States Code, to establish a 4-year term for the Commander, U.S. Cyber Command, and allow the President to nominate and appoint the Commander, U.S. Cyber Command, for one additional 4 year term with the advice and consent of the Senate.

Assessment and report on sharing military cyber capabilities with foreign operational partners (sec. 1613)

The committee recommends a provision that would require the Secretary of Defense, with the concurrence of the Secretary of State, to conduct an assessment and provide a report on such assessment of sharing military cyber capabilities of the Armed Forces with foreign partners of the United States for immediate operational use to cause effects on targets or enable collection of information from targets.

Report on progress in implementing pilot program to enhance cybersecurity and resiliency of critical infrastructure (sec. 1614)

The committee recommends a provision that would require a report on the progress made in implementing the 2018 memorandum of understanding entered into pursuant to the John S. McCain National Defense Authorization Act for Fiscal Year 2019 (Public Law 115-232).

Protection of critical infrastructure (sec. 1615)

The committee recommends a provision that would allow the President, on determination of an active, systemic, and ongoing campaign of attacks in cyberspace by a foreign power against the Government or the critical infrastructure of the United States, to authorize the Secretary of Defense, acting through the Commander, U.S. Cyber Command, to conduct military cyber activities or operations pursuant to section 394 of title 10, United States Code, in foreign cyberspace to deter, safeguard, or defend against such attacks.

**SUBTITLE B—MATTERS RELATING TO DEPARTMENT
OF DEFENSE CYBERSECURITY AND INFORMATION
TECHNOLOGY**

Budget display for cryptographic modernization activities for certain systems of the Department of Defense (sec. 1621)

The committee recommends a provision that would require the Secretary of Defense to submit a consolidated cryptographic modernization budget justification display for certain covered items.

The committee is deeply concerned about the irresponsible management of the cryptographic modernization process by the military departments and the failure of oversight on the part of the Office of the Secretary of Defense and the Joint Staff over an extended period of years.

The National Security Agency (NSA) is responsible for developing cryptographic solutions to protect vital Department of Defense (DOD) weapons, platforms, networks, data links, command and control systems, communications systems, intelligence programs, and other warfighting systems. The NSA also monitors the development of threats to DOD cryptographic systems and establishes dates by which obsolete cryptography must be replaced.

The military departments and other DOD Components are responsible for budgeting for the procurement, installation, and sustainment of cryptographic devices and capabilities. There is a process under which components may request waivers or

extensions for cryptography that the NSA deems obsolete and appeal decisions to not grant such waivers or extensions. This process exists to provide flexibility within the Department for unexpected obstacles to timely replacement of cryptography that is under threat of compromise. However, DOD Components have routinely sought and received waivers and extensions as a way to delay difficult budget tradeoffs and have assumed that such extensions would continue to be approved, leading to serious impacts on operations and operations security.

The committee applauds the actions of the current and former Vice Chairmen of the Joint Chiefs of Staff, the Joint Staff, and the current and former Deputy Secretaries of Defense for refusing to grant additional waivers and for taking decisive steps to fix the problem.

The committee notes that, under the current budget process, cryptology funds are embedded in the overall budgets for each weapon, platform, or system that will use cryptography, which provides minimal visibility for those responsible for oversight, including the Congress. In light of what has transpired, the committee believes it is necessary to require much greater transparency for the cryptographic modernization budget and plans.

Establishing projects for data management, artificial intelligence, and digital solutions (sec. 1622)

The committee recommends a provision that would require the Deputy Secretary of Defense to establish priority enterprise projects for data management, artificial intelligence, and digital solutions for business efficiency and warfighting capabilities intended to accelerate decision advantage and assign responsibilities for execution and funding of such projects.

The committee supports the Deputy Secretary's decision to create the Chief Digital and Artificial Intelligence Office under the Deputy Secretary's direct supervision. The committee emphasizes that this important initiative cannot succeed without the Deputy Secretary's personal and persistent attention, and explicit direction to the Department of Defense. This provision is intended to establish a framework and process to assist the Deputy Secretary in managing this initiative and holding Department Components accountable for progress.

The committee also notes that this subject area is rife with challenges to enterprise data management and business efficiency that provide ready-made potential projects this provision could address. Elsewhere in this Act, there are provisions related to management reform indicators and

visualization of management metrics, improved data collection and assessment needs for the Mentor Protégé Program, modeling and simulation of defense industrial base supply chains, system upgrade needs for the Congressional Hearings and Reporting Requirements Tracking System, and need for an improved component content management system that the committee has identified as problems in dire need of resolution. The committee believes that the Department could find many opportunities to apply these technologies to address defense needs, but has heretofore lacked the necessary leadership attention and focus to make progress.

Operational testing for commercial cybersecurity capabilities (sec. 1623)

The committee recommends a provision that would require a determination from the Director of Operational Test and Evaluation in certain areas prior to operating a commercial cybersecurity capability on a Department of Defense network. The provision would also allow an acquisition executive of a military service or Department Component to waive the requirement.

Plan for commercial cloud test and evaluation (sec. 1624)

The committee recommends a provision that would direct the Secretary of Defense, in consultation with commercial industry, to submit a policy and plan to the Committees on Armed Services of the Senate and the House of Representatives, not later than 180 days after the date of the enactment of this Act, on the test and evaluation of the cybersecurity of the clouds of commercial cloud service providers.

Report on recommendations from Navy Civilian Career Path study (sec. 1625)

The committee recommends a provision that would require the Secretary of the Navy to submit a report to the congressional defense committees, not later than 90 days after the date of the enactment of this Act, on the recommendations made in the report related to improving cyber career paths in the Navy submitted to the congressional defense committees under section 1653(a)(2) of the National Defense Authorization Act for Fiscal Year 2020 (Public Law 116-92). The provision would also require the Comptroller General of the United States to conduct a review of such report from the Secretary of the Navy.

The committee is aware of the results of the report and strongly supports these recommendations. The committee is

discouraged in the progress the Secretary is making in adopting these recommendations and encourages the Secretary to implement as many of the recommendations as quickly as possible.

Review of Department of Defense implementation of recommendations from Defense Science Board cyber report (sec. 1626)

The committee recommends a provision that would require the Secretary of Defense to complete a review, not later than March 1, 2023, of the findings and recommendations presented in the Defense Science Board (DSB) report, published June 2018, titled "Cyber as a Strategic Capability." The provision would also require the Secretary of Defense to submit to the Committees on Armed Services of the Senate and the House of Representatives a report on the review not later than April 1, 2023.

The committee believes that there were many valuable findings and recommendations in the DSB report, and is frustrated that many of the findings have not yet been addressed. The committee encourages the Department of Defense to address as many of the findings as possible and to develop adoption plans for the recommendations.

Requirement for software bill of materials (sec. 1627)

The committee recommends a provision that would require the Secretary of Defense to amend the Department of Defense Supplement to the Federal Acquisition Regulation to require a software bill of materials for all non-commercial software created for or acquired by the Department of Defense.

The provision would also require certain Department officials to provide recommendations and the Secretary to conduct a study of acquiring a software bill of materials for software already acquired by the Department. In addition, the provision would require the Secretary, in consultation with industry, to develop an approach for commercial software that provides policies and processes for operationalizing software bills of materials to enable the Department to understand more promptly the cybersecurity risks to Department capabilities posed by discoveries of vulnerabilities and compromises in commercial and open source software.

Finally, the provision would require the Secretary to request information on options to identify software to enable risk assessments and patching of security vulnerabilities detected absent a reliable bill of materials.

Establishment of support center for consortium of universities that advise Secretary of Defense on cybersecurity matters (sec. 1628)

The committee recommends a provision that would amend section 1659 of the National Defense Authorization Act for Fiscal Year 2020 (Public Law 116-92) to require the Secretary of Defense to establish a center to support the consortium of universities established to assist the Secretary on certain cybersecurity matters.

The committee is aware of the efforts by the Department of Defense to establish this consortium and encourages the Department to fully utilize the assistance that can be provided by the required support center.

Roadmap and implementation plan for cyber adoption of artificial intelligence (sec. 1629)

The committee recommends a provision that would require the Commander, U.S. Cyber Command, and the Chief Information Officer of the Department of Defense (DOD), in coordination with the Chief Data and Artificial Intelligence Officer of the Department, the Director of Defense Advanced Research Projects Agency, and the Under Secretary of Defense for Research and Engineering, to jointly develop a 5-year roadmap and implementation plan, not later than 270 days after the date of the enactment of this Act, for rapidly adopting artificial intelligence (AI) applications to the warfighter cyber missions within the DOD.

The committee is aware of the strong emphasis that the National Security Commission on Artificial Intelligence put on developing and defending against AI-enhanced capabilities in the cyber domain. The committee is concerned about the lack of adoption of AI-enhanced cyber capabilities within the Department of Defense Information Network cybersecurity enterprise and at U.S. Cyber Command. The committee is particularly concerned that the Accelerating Data and Artificial Intelligence Initiative, directed by the Deputy Secretary of Defense for the purpose of improving tactical artificial intelligence at the combatant commands, does not include any efforts for activities at U.S. Cyber Command.

Demonstration program for cyber and information technology budget data analytics (sec. 1630)

The committee recommends a provision that would require the Chief Information Officer of the Department of Defense, in

coordination with the Chief Digital and Artificial Intelligence Officer, to complete a pilot program to demonstrate the application of data analytics to the fiscal year 2024 cyber and information technology budget data of a military service.

Limitation on availability of funds for operation and maintenance for Office of Secretary of Defense until framework to enhance cybersecurity of United States defense industrial base is completed (sec. 1631)

The committee recommends a provision that would limit certain funds from obligation or expenditure until the framework required by section 1648 of the National Defense Authorization Act for Fiscal Year 2020 (Public Law 116-92) is completed and submitted to the congressional defense committees.

The committee is disappointed in the lack of coordination of efforts within the Department of Defense to improve cybersecurity of the defense industrial base since the National Defense Authorization Act for Fiscal Year 2020 was enacted. The committee is aware of several elements of the framework that are being discussed within the Department, but is frustrated by the piecemeal approach being taken to this topic.

Assessments of weapons systems vulnerabilities to radio-frequency enabled cyber attacks (sec. 1632)

The committee recommends a provision that would require the Secretary of Defense to ensure that certain activities include regular assessments of the vulnerabilities to and risks presented by radio-frequency enabled cyber attacks with respect to certain aspects of certain systems.

ITEMS OF SPECIAL INTEREST

Army Research Laboratory collaboration on electromagnetic warfare and radio frequency sensors

The committee supports the continued growth of the Army Research Laboratory's collaboration with academia in the development of technology to enable and validate new, distributed electromagnetic warfare and radio frequency (RF) sensors to provide leap-ahead performance improvement in coverage, targeting, engagement timelines, jamming power on target, new electromagnetic warfare effects, and enhanced survivability of participating platforms. These investments, such as modeling, simulation, and emulation of distributed RF

effects, advanced materials-based antennas and RF electronics, sophisticated algorithms and techniques to distract and confuse threats, and methods and algorithms for synchronizing across many platforms to enable large-scale and distributed effects, will accelerate the transformation of current RF and sensor architectures, providing marked performance improvement of electromagnetic warfare and radar systems. These advances will enable new systems to meet the near-term enduring battlespace challenges of survivability, redundancy, frequency exclusivity, and dependence on the global positioning system.

Comptroller General assessment of cloud service providers' data fees

Data egress fees are charges cloud service providers (CSPs) bill to customers for moving their data from the CSP's cloud infrastructure to another CSP or the customer's own data center. Some cloud services companies' pricing models incentivize cloud migration by offsetting or waiving upfront adoption costs (such as data ingress charges) while charging fees for data egress that create significant disincentives for customers to move their data from one provider to another. Such fees can defeat the purpose of best-practice multi-cloud policies that sustain competition among CSPs. The committee is concerned that the Department of Defense (DOD) has not accounted for these and other potential hidden costs, their vendor lock-in effects, or the negative implications they could have on ensuring a competitive environment for future cloud procurements and the Department's need to leverage the breadth of innovation across multiple CSPs.

The committee, therefore, directs the Comptroller General of the United States to conduct an assessment on data egress, other data management fees, and other potential unaccounted for costs, and the impact such fees and costs could have on the Department of Defense as it transitions to cloud services and leverages innovation across multiple CSPs. The committee specifically directs the Comptroller General to assess: (1) If data egress fees could practically result in vendor lock-in, and the costs associated with any potential lock-in; (2) How data egress and other data movement and manipulation fees could limit the utility of multi-cloud and hybrid cloud architectures, or indirectly limit the ability of the DOD to fully exploit its own data; (3) How the DOD is capturing, tracking, and reporting on data egress and other associated fees (such as through monthly status reports, or other DOD acquisition information systems); (4) How the DOD is addressing the risks associated with data egress and other fees; (5) Whether the Department's risk

mitigation plan is sufficient; (6) Whether the Department would benefit by requiring that future cloud service procurements prohibit or limit data egress and other data management-related fees; (7) What, if any, data egress and other data management fees should be allowable; and (8) Any additional matters the Comptroller General determines appropriate. The committee directs the Comptroller General to provide a briefing on the assessment to the congressional defense committees not later than March 1, 2023, with a final report to follow at a mutually agreed upon date.

Comptroller General Review of Cybersecurity Maturity Model Certification Reciprocity

The committee notes its continued interest in the successful implementation of the Cybersecurity Maturity Model Certification (CMMC) process at the Department of Defense. The committee has consistently raised concerns about needing to improve the cybersecurity of the defense industrial base (DIB), balanced with the needs of small and medium-sized businesses. As such, the committee applauds the Department for the recent efforts to modify the CMMC requirements to a risk-based approach that addresses a range of concerns that were provided to the Department.

However, the committee is concerned that the current CMMC regulations still do not clearly address CMMC compliance for commercial off-the-shelf technical and software component solutions. Further, the committee is concerned that there was no consideration of providing reciprocity to elements of the DIB that have already achieved some level of Federal Risk and Authorization Management Program (FedRAMP) certification. The committee believes the Department can take some additional steps to achieve greater CMMC compliance for the DIB.

The committee directs the Comptroller General of the United States to conduct an assessment of the Department's incorporation of reciprocity in the CMMC process. The assessment shall also include what steps the Department of Defense is taking to provide a general CMMC certification for commercial off-the-shelf technology that may be used by small businesses as their primary information technology systems. The assessment shall include a comparison of how the CMMC certification model includes requirements for FedRAMP certification. The assessment shall also investigate what additional costs may be associated with CMMC compliance if a member of the DIB already has achieved a similar FedRAMP certification level. The committee directs the Comptroller General to provide a briefing on preliminary observations to the congressional defense committees not later

than February 1, 2023, with a final report to follow on a mutually agreed date.

Department of Defense Information Network Approved Products List process

The committee recognizes the importance of ensuring that products and support used as part of the Department of Defense Information Network (DODIN) are secure, trusted, and approved. The committee believes there is no room for compromise in meeting and upholding the standards necessary to maintain security of the DODIN, to include requiring products to be included on the DODIN Approved Products List (APL). The committee understands that the Defense Information Systems Agency has initiated an assessment of the APL process to ensure that current procedures align with new and evolving Department priorities. The DOD Chief Information Officer is currently reviewing the DODIN APL waiver process.

Therefore, the committee directs the Chief Information Officer to provide a briefing to the Committees on Armed Services of the Senate and the House of Representatives, not later than March 1, 2023, on the results of both the DODIN APL process assessment and proposed changes to the waiver process, as well as recommendations on how to utilize both processes to increase the security, reliability, and trust of the DODIN.

Election Security Group report

The committee notes that securing national elections from foreign malign actors is "an enduring, no-fail mission" for U.S. Cyber Command (CYBERCOM). Further, the committee recognizes that ensuring fair, secure, and equitable elections is imperative to maintaining the integrity of the Government and spirit of democracy.

Therefore, the committee directs the Commander, U.S. CYBERCOM, to provide, not later than 60 days following each Federal election through the 2032 election cycle, a biennial, unclassified report to the Committees on Armed Services of the Senate and the House of Representatives on the Command's efforts to ensure election security and counter election threats throughout the preceding Federal election cycle. The report shall include a classified annex, as necessary. Additionally, the Commander shall provide a briefing to the committees on the election security threat assessment not later than September 30 preceding each Federal election through the 2032 election cycle.

Identity, Credential, and Access Management

A foundation for zero trust cybersecurity is an effective, enterprise-wide identity, credential, and access management (ICAM) capability that extends throughout the operational force, including intelligence components. The committee believes that this will be incredibly important for mission networks, including for Joint All Domain Command and Control (JADC2). The committee is concerned about different approaches from the Department of Defense (DOD) Office of the Chief Information Officer (CIO), the Defense Information Systems Agency (DISA), and the services regarding the pathway to achieving this goal. The committee is aware that there are disconnects on the expectations and responsibilities for an interoperable federated enterprise solution. The committee is also aware that the JADC2 cross-functional team (CFT) recently reported that "ICAM is difficult due to multiple data standards, legal and authoritative provenance constraints, and licensing issues." The committee understands that the enterprise ICAM solution that DISA is developing would not extend to the operational or tactical and often disconnected force or support the needs of mission partner networks. The committee is concerned that the complexity of access management across the services, domains, and systems for complex joint kill chains and missions is not being addressed. The committee believes that greater coordination and integration is necessary, as well as an accelerated timeline for implementation to defend against current cybersecurity threats.

Accordingly, as part of the efforts required by section 1528 of the National Defense Authorization Act for Fiscal Year 2022 (Public Law 117-81), the committee directs the DOD CIO to coordinate with the JADC2 CFT, the DISA Director, the service CIOs, and the Director of Cost Analysis and Program Evaluation to establish and then provide a briefing to the congressional defense committees, not later than December 1, 2022, on: (1) The agreed end-to-end ICAM architecture and capability requirements, including all necessary extensions to operational forces; and (2) The roles and responsibilities of DISA and the individual services, respectively, for the segments and capabilities of the ICAM architecture. The JADC2 CFT shall incorporate the results of this effort into the JADC2 implementation plan and provide a briefing to the congressional defense committees not later than April 1, 2023.

Internet of Things security

The committee supports the Defense Innovations Unit's (DIU) mission to accelerate innovation in the commercially focused technology sector for the warfighter. The committee is

concerned with the growing threat to Internet of Things (IoT) and endpoint devices. The committee encourages the DIU to find and provide access to leading-edge technology to include development, design, and security solutions that leverages commercial solutions to enhance security of IoT devices by DOD organizations. The committee supports these actions and encourages DIU to execute projects that leverage commercial sector technology analogous to military application, thereby increasing dual-use technology agility for the DOD. The committee encourages the DIU to continue to work with the commercial sector that maintains endpoint devices against these threats.

Therefore, the committee directs the Director of the Defense Innovation Unit to provide a briefing, not later than December 31, 2022, to the committee on actions to address IoT security of endpoint devices and how the DIU is working with non-traditional software development industry on these innovative technologies.

Multi-cloud strategy

The Department of Defense's decision to implement a cloud smart strategy and use a multi-cloud architecture that allows for portability and interoperability across multiple vendors is a positive development. The Department should use the latest cloud management software technology and enterprise-wide multi-cloud management principles that allow for applications, data, and programs to be portable and interoperable between public, private, and edge cloud environments, while minimizing the cost and complexity of any unavoidable refactoring. Without the use of such enabling multi-cloud management technology, the Department will not realize the benefits and operational efficiencies and security of a resilient multi-cloud architecture, which will lead to unnecessary stove-piping with potential national security concerns.

Multi-use secure compartmented information facility

The committee notes that access to classified spaces is a barrier-to-entry for small businesses and nontraditional vendors interested in working with the Department of Defense (DOD) and the intelligence community (IC). The committee views this problem as a significant impediment to the DOD's innovation agenda. To help address this problem, the Congress previously directed the DOD and the Director of National Intelligence to facilitate access for these businesses through the authorization

and accreditation of multi-use secure compartmented information facilities (SCIFs) and to ensure efficient use of such expensive taxpayer-funded facilities. However, the DOD and the IC have made little progress in achieving this objective.

Further examination indicates that more purposeful action by the executive branch is needed to: (1) Ensure that DOD and IC components and program managers fully understand that there are no policy barriers or regulations inhibiting multi-use SCIFs; and (2) Encourage private sector investment in multi-use, multi-tenant SCIF facilities. The committee also remains concerned about the challenges companies face when there is a need to access more than one secure network from a single secure facility either to serve multiple contracts within a single company or multiple users of a shared SCIF. The committee understands that the DOD and IC Chief Information Officers (CIOs) are working on interoperability between all of the various classified networks to enable routing through a single network interface, but in practice, installing multiple network "drops" continues to be required.

Therefore, the committee directs the Under Secretary of Defense for Research and Engineering, the Under Secretary of Defense for Acquisition and Sustainment, and the Under Secretary of Defense for Intelligence and Security to ensure that program managers and security managers in both Government and industry are aware that: (1) Multi-use and multi-tenant SCIFs are not only allowed but encouraged in order to make the most efficient use of very expensive taxpayer-funded facilities; and (2) Decisions to restrict a SCIF to one program or one contract are strongly discouraged and should be allowed only in special circumstances.

Further, the committee directs the Under Secretary of Defense for Research and Engineering, in coordination with the Under Secretary of Defense for Acquisition and Sustainment and the Under Secretary of Defense for Intelligence and Security, to work with the private sector to develop a strategy to create affordable SCIF space in key locations across the country to enable small businesses and nontraditional vendors to seek and win contracts without having to build their own dedicated SCIF spaces and to offer existing contractors less expensive alternatives to maintaining their own SCIFs, especially those that are under-utilized. This strategy should make it possible for companies that win contracts that require expanded SCIF space to be able to quickly lease it, without having to wait to construct new or additional space. The committee directs the Under Secretary of Defense for Research and Engineering to provide a report to the Committees on Armed Services of the

Senate and the House of Representatives on the implementation of this strategy not later than February 1, 2023.

Finally, the committee directs the Comptroller General of the United States to evaluate this strategy within 180 days and make recommendations to improve DOD policies and practices regarding multi-use SCIFs.

National Security Agency workforce pipeline program

The committee is aware that there has been a pilot program through the National Security Agency (NSA) National Cryptologic School for the past several years. This pilot program has been enabling workforce transformation through certificate-based courses on cybersecurity and artificial intelligence that are offered by Center of Academic Excellence (CAE) universities. The committee believes such efforts under this pilot program are showing great promise, and encourages transition of these efforts beyond a pilot program.

Therefore, not later than December 1, 2022, the committee directs the Director, National Security Agency, to provide a briefing to the congressional defense committees on this pilot program. The briefing shall include: (1) An overview of the pilot program activities and accomplishments, including identification of efforts to develop courses and curricula with technology partners, provide funding for select NSA CAE universities to offer these courses, and fund tuition reimbursement for participation in the courses; (2) An identification of all funding for the pilot program execution, including a listing of all awards made to academic institutions; (3) Lessons learned from the pilot program; (4) Plans to transition the pilot program to an established program in the future; (5) Recommendations for authorities or legislative action necessary for future program success; and (6) Any other matters deemed appropriate by the Director.

Outcome-based metrics for Joint Cyber Warfighting Architecture programs on the software acquisition pathway

The committee recognizes that Joint Cyber Warfighting Architecture (JCWA) programs depend on timely and regular feedback assessing the benefits of new capabilities for cyber warfighters. The metrics currently used to assess these capabilities' benefits, including the utility of resources applied to the capabilities, are individualized and not outcome-based. The committee is aware of a Government Accountability Office (GAO) report, published on March 30, 2022, titled "Defense Acquisitions: Cyber Command Needs to Develop Metrics to

Assess Warfighting Capabilities" (GAO-22-104695), that determined that "[i]f Cyber Command does not develop outcome-based metrics to inform future Value Assessments, it risks not being able to understand whether and how new capabilities benefit the cyber warfighting mission." In order to most effectively allocate resources toward effective capability development, U.S. Cyber Command (CYBERCOM) must develop broader metrics tied to intended operational outcomes as defined in CYBERCOM's concept of operations.

To that end, the committee directs the Commander, U.S. Cyber Command, not later than December 1, 2022, to develop outcome-based metrics for the JCWA programs that are on the software acquisition pathway to support future value assessments. The committee notes that these metrics shall account for other factors on mission outcomes, including, but not limited to, cyber operations tactics, techniques, and procedures. The committee further directs the Commander to provide a briefing to the congressional defense committees, not later than 30 days following the development of these metrics, on these metrics, their development and iterative refinement, and a timeline for their implementation.

Over-classification of information

The committee notes the testimony and other public statements of multiple senior uniformed and civilian officials, in a variety of hearings and other venues over the last 3 years, to include a former Deputy Secretary of Defense, a former Vice Chairman of the Joint Chiefs of Staff, a service chief, and multiple combatant commanders, with respect to the issue of the over-classification of programs, capabilities, and plans.

The committee further notes that testimony and other statements have addressed the role that over-classification plays in limiting deterrence; increasing risk to operational forces due to the lack of a common understanding of U.S. capabilities; providing harmful barriers to entry for technological innovation; duplicating efforts within acquisition programs; and limiting certain critical information to only the most senior leaders, when greater integration and synchronization to deputies and staffs is required to conduct effective joint force planning and operations.

The committee is encouraged that the Deputy Secretary of Defense began a Department of Defense-wide initiative in 2021 to fully assess current classification processes to improve national security outcomes, while continuing to safeguard the Nation's appropriately classified information. The committee notes the National Geospatial-Intelligence Agency has

effectively streamlined certain classification efforts following a similar methodology.

Accordingly, the committee directs the Secretary of Defense to provide a briefing to the congressional defense committees, not later than December 1, 2022, which shall include: (1) The findings and recommendations of the Deputy Secretary of Defense's initiative on over-classification; (2) The impacts of over-classification on deterrence, risk to the force, risk to mission, technological innovation, and the duplication of acquisition programs; (3) Lessons learned from deliberate actions taken to reduce classification during the Russian invasion of Ukraine; (4) Lessons learned from the National Geospatial- Intelligence Agency's efforts to streamline its policies and procedures, including classification guidebooks; and (5) Recommendations for the future.

Plan on State Partnership Program support for cyberspace security cooperation activities

The committee is aware that the Department of Defense State Partnership Program (SPP) supports the security cooperation objectives of the United States and the geographic combatant commands by developing enduring relationships with partner countries and carrying out activities to build partner capacity, improve interoperability, and enhance U.S. access and influence while increasing the readiness of U.S. and partner forces to meet emerging or persistent challenges. The committee is also aware of the growing cyberspace capabilities within the National Guard enterprise that could be utilized to support cyberspace security cooperation activities with U.S. allies and partners through the SPP. The committee believes that these cyberspace security cooperation activities conducted through the SPP should be reviewed to determine the most effective method of utilization.

To that end, not later than January 31, 2023, the committee directs the Under Secretary of Defense for Policy, in coordination with the Chief of the National Guard Bureau, to develop a plan on ways the SPP could be further utilized to support the cyberspace security cooperation activities of the Department of Defense. The plan shall include: (1) Identification and prioritization of additional cyberspace security cooperation activities that could be supported by the National Guard through the SPP; (2) Proposed mechanisms to integrate and coordinate activities for cyberspace security cooperation activities across the SPP partner nations; (3) Consideration of proposed mechanisms for augmenting National Guard cyberspace capabilities from one state to another in

support of the SPP; and (4) Any additional authorities, funding, and legislative actions needed to support enhanced cyberspace security cooperation activities through the SPP.

The committee further directs the Under Secretary and Chief to provide a briefing to the Committees on Armed Services of the Senate and the House of Representatives, not later than February 1, 2023, on the plan developed and any associated recommendations.

Report on blockchain technology to cybersecurity

The committee directs the Secretary of Defense, in consultation with the Secretary of the Department of Homeland Security and the Director of National Intelligence, to submit a classified report to the Committees on Armed Services of the Senate and the House of Representatives and the congressional intelligence committees, not later than April 1, 2023, that assesses the potential relative utility, value, and relevance of blockchain technology in protecting the confidentiality, integrity, and availability of data, networks, and systems at all levels of classification. The assessment shall cover potential blockchain applications in or to information technology, operational technology, data at rest and in motion, zero trust architectures, cloud technology, and network management functions.

Report on social media operations security concerns

The committee remains concerned about the use of social media by members of the Armed Forces and its effects on maintaining operations security. This concern is especially pertinent following events in Ukraine where Russian soldiers' use of social media repeatedly compromised their operations security.

Therefore, the committee directs the Secretary of Defense to submit to the committee, not later than March 1, 2023, an unclassified report with a classified annex that assesses operations security concerns pertaining to use of social media by members of the Armed Forces serving on Active Duty. The required report shall address, at a minimum, the following:

- (1) A description of existing Department of Defense policies and associated guidance related to the use of social media by members of the Armed Forces serving on Active Duty;
- (2) Potential risks to operations security resulting from the use of social media by members of the Armed Forces serving on Active Duty, including while deployed;

(3) A description of known or suspected instances where the use of social media by members of the Armed Forces serving on Active Duty significantly impacted operations security;

(4) Recommendations to mitigate potential risks to operations security resulting from the use of social media by members of the Armed Forces serving on Active Duty; and

(5) Any other matters deemed relevant by the Secretary.

Role of email security and break and inspect perimeter security practices in Zero Trust Architecture

The committee strongly supports the zero trust cybersecurity strategy of the Department of Defense (DOD). The committee notes, however, that perimeter defenses remain important and must be retained and improved. The committee also strongly supports the DOD's procurement of enterprise cloud-based office productivity services under the Office 365 (O365) program, including email services. The committee is aware that the Defense Information Systems Agency's Zero Day Network Defense email security system currently operates sub-optimally outside of the O365 cloud. The committee is also aware that the Sharkseer break and inspect capability at DOD Internet Access Points only processes about half of the encrypted traffic within the DOD Information Network.

Therefore, the committee directs the Chief Information Officer (CIO), the Commander, U.S. Cyber Command, and the Director of Cost Analysis and Program Evaluation to assess the need for migrating the email security system to the O365 cloud environment and for expanding the break and inspect capacity of the Sharkseer program, as well as make recommendations for future action to the Secretary of Defense. The committee directs the CIO to provide a briefing to the congressional defense committees on the results of the assessment not later than February 1, 2023.

United States Cyber Command Science and Technology Pipeline

The committee believes that long-term science and technology cyber research is critical to developing capabilities that will enable the warfighter to maintain dominance in cyberspace in the future. Section 257 of the National Defense Authorization Act for Fiscal Year 2020 (Public Law 116-92) required the Secretary of Defense, acting through the Under Secretary of Defense for Research and Engineering, to develop a roadmap for science and technology activities of the Department

of Defense to support development of cyber capabilities to meet Department needs and missions, but as yet that roadmap has not been delivered. The committee is frustrated by the slow pace of development of this roadmap.

The committee is concerned that the Department lacks a robust, clear process to articulate long-term operational cyber capability needs from the Commander, U.S. Cyber Command (CYBERCOM), and the Commanders, Joint Force Headquarters-Cyber, in each military service to the science and technology research enterprise. The committee is also concerned that with the transition of enhanced budget control (EBC) responsibilities assigned to the Commander by section 1507(a)(1) of the National Defense Authorization Act for Fiscal Year 2022 (Public Law 117-81), there is significant risk that the military services will de-prioritize and disinvest from cyber science and technology (S&T) supporting CYBERCOM capability development.

The committee notes that under EBC, CYBERCOM will have no organic S&T funding, so CYBERCOM will depend on the services' S&T enterprises, the Defense Advanced Research Projects Agency (DARPA), the Strategic Capabilities Office (SCO), and the commercial sector to generate new cyber operational technologies. The committee is concerned that the services' S&T prioritization processes, however, are unlikely to adequately support CYBERCOM requirements. In this respect, the committee notes that the primary source of 6.1-6.3 cyber S&T funding within the Department today comes from DARPA and that the DARPA funding is often focused on high-risk research for future capabilities rather than satisfying documented CYBERCOM requirements.

The committee, therefore, directs the Commander, U.S. CYBERCOM, and the Under Secretary of Defense for Research and Engineering, in coordination with the Director of the National Security Agency (NSA), the Director of the DARPA, the Director of the SCO, the Director of the Defense Innovation Unit (DIU) and the Secretaries of the military departments, to jointly develop a process for identifying, funding, executing, monitoring, and transitioning cyber S&T capability research needs supporting CYBERCOM requirements for the Department of Defense S&T enterprise, not later than October 1, 2023. The process shall also include a documented set of roles and responsibilities and governance process for CYBERCOM, the Under Secretary of Defense for Research and Engineering, the Director of NSA, the Director of the DARPA, the Director of the SCO, the Director of the DIU, and the Secretaries of the military departments.

The committee directs that the Commander and Under Secretary provide a briefing to the Committees on Armed Services

of the Senate and the House of Representatives on the process and roles and responsibilities for ensuring the Department S&T enterprise is robustly supporting CYBERCOM capability development needs not later than December 1, 2022. The briefing shall include a recommendation on whether CYBERCOM should have direct budget control over any 6.1-6.3 cyber S&T funding, recommendations for other budget control assignments for cyber 6.1-6.3 S&T funding to support CYBERCOM missions, and whether 6.8 or 6.8-like funding could be utilized for these activities.

DIVISION B—MILITARY CONSTRUCTION AUTHORIZATIONS

Summary and explanation of funding tables

Division B of this Act authorizes funding for military construction projects of the Department of Defense (DOD). It includes funding authorizations for the construction and operation of military family housing as well as military construction for the reserve components, the Defense Agencies and Field Activities, and the North Atlantic Treaty Organization Security Investment Program. It also provides authorization for the base closure accounts that fund military construction, environmental cleanup, and other activities required to implement the decisions made in prior base closure rounds. It prohibits any future base realignment closure rounds.

The tables contained in this Act provide the project-level authorizations for the military construction funding authorized in division B of this Act and summarize that funding by account.

The fiscal year 2023 budget request included \$12.1 billion for military construction and housing programs. Of this amount, \$7.9 billion was requested for military construction, \$1.9 billion for the construction and operation of family housing, \$284.6 million for base closure activities, and \$210.1 million for the North Atlantic Treaty Organization Security Investment Program.

The committee recommends the authorization of appropriations for military construction, housing programs, and base closure activities totaling \$14.6 billion. The total amount authorized for appropriations reflects the committee's continued commitment to investing in the recapitalization of DOD facilities and infrastructure.

Short title (sec. 2001)

The committee recommends a provision that would designate division B of this Act as the "Military Construction Authorization Act for Fiscal Year 2023."

Expiration of authorizations and amounts required to be specified by law (sec. 2002)

The committee recommends a provision that would establish the expiration date for authorizations in this Act for military construction projects, land acquisition, family housing projects and facilities, and contributions to the North Atlantic Treaty Organization Security Investment Program as October 1, 2025, or the date of the enactment of an Act authorizing funds for military construction for fiscal year 2026, whichever is later.

Effective date (sec. 2003)

The committee recommends a provision that would provide an effective date for titles XXI through XXVII of October 1, 2022, or the date of the enactment of this Act, whichever is later.

TITLE XXI—ARMY MILITARY CONSTRUCTION

Summary

The budget request included authorization of appropriations of \$1.2 billion for military construction and \$600.0 million for family housing for the Army for fiscal year 2023.

The committee recommends authorization of appropriations of \$1.8 billion for military construction for the Army and \$570.1 million for family housing for the Army for fiscal year 2023.

Further details on projects authorized can be found in section 2101 and section 4601 of this Act.

Authorized Army construction and land acquisition projects (sec. 2101)

The committee recommends a provision that would authorize military construction projects for the active component of the Army for fiscal year 2023. The committee recognizes the Department of Defense's significant unfunded military construction requirements and has included an additional \$478.0 million for many of these projects here. The authorized amount is listed on an installation-by-installation basis.

Family housing (sec. 2102)

The committee recommends a provision that would authorize new construction, planning, and design of family housing units for the Army for fiscal year 2023. This provision would also authorize funds for facilities that support family housing, including housing management offices, housing maintenance, and storage facilities.

Authorization of appropriations, Army (sec. 2103)

The committee recommends a provision that would authorize appropriations for the active component military construction and family housing projects of the Army authorized for construction for fiscal year 2023. This provision would also provide an overall limit on the amount authorized for military construction and family housing projects for the active component of the Army. The state list contained in this report is the binding list of the specific projects authorized at each location.

Extension and modification of authority to carry out certain fiscal year 2018 projects (sec. 2104)

The committee recommends a provision that would extend the authorizations contained in sections 2101(b) and 2102 of the National Defense Authorization Act for Fiscal Year 2018 (Public Law 115-91) for two projects until October 1, 2023, or the date of the enactment of an Act authorizing funds for military construction for fiscal year 2024, whichever is later.

Modification of authority to carry out fiscal year 2019 project at Camp Tango, Korea (sec. 2105)

The committee recommends a provision that would modify the authorization contained in section 2101(b) of the John S. McCain National Defense Authorization Act for Fiscal Year 2019 (division B of Public Law 115-232; 132 Stat. 2242) for the construction of a command and control facility at Camp Tango, Korea.

TITLE XXII—NAVY MILITARY CONSTRUCTION

Summary

The budget request included authorization of appropriations of \$5.6 billion for military construction and \$337.3 million for family housing for the Navy for fiscal year 2023.

The committee recommends authorization of appropriations of \$3.7 billion for military construction for the Navy and \$337.3 million for family housing for the Navy for fiscal year 2023.

Further details on projects authorized can be found in section 2101 and section 4601 of this Act.

Authorized Navy construction and land acquisition projects (sec. 2201)

The committee recommends a provision that would authorize Navy and Marine Corps military construction projects for fiscal year 2023. The committee recognizes the Department of Defense's significant unfunded military construction requirements and has included an additional \$1.3 billion for many of these projects here. The authorized amounts are listed on an installation-by-installation basis.

Family housing (sec. 2202)

The committee recommends a provision that would authorize new construction, planning, and design of family housing units for the Navy for fiscal year 2023. This provision would also authorize funds for facilities that support family housing, including housing management offices, housing maintenance, and storage facilities.

Authorization of appropriations, Navy (sec. 2203)

The committee recommends a provision that would authorize appropriations for the active component military construction and family housing projects of the Department of the Navy authorized for construction for fiscal year 2023. This provision would also provide an overall limit on the amount authorized for military construction and family housing projects for the active components of the Navy and the Marine Corps. The state list contained in this report is the binding list of the specific projects authorized at each location.

Extension of authority to carry out certain fiscal year 2018 project at Joint Region Marianas, Guam (sec. 2204)

The committee recommends a provision that would extend the authorization contained in section 2201(a) of the Military Construction Authorization Act for Fiscal Year 2018, Division B, Title XXII, of the National Defense Authorization Act for Fiscal Year 2018 (Public Law 115-91) for one project until October 1, 2023, or the date of the enactment of an Act authorizing funds for military construction for fiscal year 2024, whichever is later.

TITLE XXIII—AIR FORCE MILITARY CONSTRUCTION

Summary

The budget request included authorization of appropriations of \$1.7 billion for military construction and \$588.0 million for family housing for the Air Force in fiscal year 2023.

The committee recommends authorization of appropriations of \$3.2 billion for military construction for the Air Force and \$606.8 million for family housing for the Air Force for fiscal year 2023.

Further details on projects authorized can be found in section 2301 and section 4601 of this Act.

Authorized Air Force construction and land acquisition projects (sec. 2301)

The committee recommends a provision that would authorize Air Force military construction projects for fiscal year 2023. The committee recognizes the Department of Defense's significant unfunded military construction requirements and has included an additional \$849.3 million for many of these projects here. The authorized amounts are listed on an installation-by-installation basis.

Family housing (sec. 2302)

The committee recommends a provision that would authorize new construction, planning, and design of family housing units for the Air Force for fiscal year 2023. This provision would also authorize funds for facilities that support family housing, including housing management offices, housing maintenance, and storage facilities.

Authorization of appropriations, Air Force (sec. 2303)

The committee recommends a provision that would authorize appropriations for the active component military construction and family housing projects of the Air Force authorized for construction for fiscal year 2023. This provision would also provide an overall limit on the amount authorized for military construction and family housing projects for the active component of the Air Force. The state list contained in this report is the binding list of the specific projects authorized at each location.

Extension of authority to carry out certain fiscal year 2018 projects (sec. 2304)

The committee recommends a provision that would extend the authorization contained in section 2301(a) of the Military Construction Authorization Act for Fiscal Year 2018, Division B, Title XIII, of the National Defense Authorization Act for Fiscal Year 2018 (Public Law 115-91) for 11 projects until October 1, 2023, or the date of the enactment of an Act authorizing funds for military construction for fiscal year 2024, whichever is later.

Modification of authority to carry out certain fiscal year 2020 projects at Tyndall Air Force Base, Florida (sec. 2305)

The committee recommends a provision that would modify the authorization contained in section 2912(a) of the Military Construction Authorization Act for Fiscal Year 2020, Division B, Title XXIX, of the National Defense Authorization Act for Fiscal Year 2020 (Public Law 116-92) for five projects at Tyndall Air Force Base, Florida.

Modification of authority to carry out certain fiscal year 2021 project at Hill Air Force Base, Utah (sec. 2306)

The committee recommends a provision that would modify the authorization contained in section 2301(a) of the Military Construction Authorization Act for Fiscal Year 2021, Division B, Title XXIII, of the William M. (Mac) Thornberry National Defense Authorization Act (Public Law 116-283) for one project at Hill Air Force Base, Utah.

TITLE XXIV—DEFENSE AGENCIES MILITARY CONSTRUCTION

Summary

The budget request included authorization of appropriations of \$2.4 billion for military construction for the Defense Agencies for fiscal year 2023.

The committee recommends authorization of appropriations of \$2.2 billion for military construction for the Defense Agencies for fiscal year 2023.

Authorized Defense Agencies construction and land acquisition projects (sec. 2401)

The committee recommends a provision that would authorize military construction projects for the Defense Agencies for fiscal year 2023. The committee recognizes the Department of Defense's significant unfunded military construction requirements and has included an additional \$151.0 million for many of these projects here. The authorized amounts are listed on an installation-by-installation basis.

Authorized Energy Resilience and Conservation Investment Program projects (sec. 2402)

The committee recommends a provision that would authorize the Secretary of Defense to carry out energy resilience and conservation investment program projects.

Authorization of appropriations, defense agencies (sec. 2403)

The committee recommends a provision that would authorize appropriations for the military construction and family housing projects of the Defense Agencies authorized for construction for fiscal year 2023. This provision would also provide an overall limit on the amount authorized for military construction and family housing projects for the Defense Agencies. The state list contained in this report is the binding list of the specific projects authorized at each location.

Extension of authority to carry out certain fiscal year 2018 projects (sec. 2404)

The committee recommends a provision that would extend the authorization contained in section 2401(b) of the Military Construction Authorization Act for Fiscal Year 2018 (division B of Public Law 115-91) for two projects until October 1, 2023, or the date of the enactment of an Act authorizing funds for military construction for fiscal year 2024, whichever is later.

TITLE XXV—INTERNATIONAL PROGRAMS

Summary

The Department of Defense requested authorization of appropriations of \$210.1 million for military construction in fiscal year 2023 for the North Atlantic Treaty Organization Security Investment Program and in-kind contributions from the Republic of Korea.

The committee recommends authorization of appropriations for \$210.1 million for military construction in fiscal year 2023 for the North Atlantic Treaty Organization Security Investment Program and in-kind contributions from the Republic of Korea totaling \$749.8 million.

SUBTITLE A—NORTH ATLANTIC TREATY ORGANIZATION SECURITY INVESTMENT PROGRAM

Authorized NATO construction and land acquisition projects (sec. 2501)

The committee recommends a provision that would authorize the Secretary of Defense to make contributions to the North Atlantic Treaty Organization Security Investment Program in an amount equal to the sum of the amount specifically authorized in section 2502 of this title and the amount of recoupment due to the United States for construction previously financed by the United States.

Authorization of appropriations, NATO (sec. 2502)

The committee recommends a provision that would authorize appropriations of \$210.1 million for the U.S. contribution to the North Atlantic Treaty Organization (NATO) Security Investment Program (NSIP) for fiscal year 2023.

The provision would also allow the Department of Defense construction agent to recognize the NATO project authorization amounts as budgetary resources to incur obligations when the United States is designated as the host nation for the purposes of executing a project under the NSIP.

SUBTITLE B—HOST COUNTRY IN-KIND CONTRIBUTIONS

Republic of Korea-funded construction projects (sec. 2511)

The committee recommends a provision that would authorize the Secretary of Defense to accept seven military construction projects totaling \$749.8 million from the Republic of Korea as in-kind contributions.

Repeal of authorized approach to construction project at Camp Humphreys, Republic of Korea (sec. 2512)

The committee recommends a provision that would amend section 2511 of the Military Construction Authorization Act for Fiscal Year 2022, Division B, Title XXV, of the National Defense Authorization Act for Fiscal Year 2022 (Public Law 117-81).

TITLE XXVI—GUARD AND RESERVE FORCES FACILITIES

Summary

The Department of Defense requested authorization of appropriations of \$633.0 million for military construction in fiscal year 2023 for facilities for the National Guard and reserve components.

The committee recommends authorization of appropriations of \$785.2 million for military construction in fiscal year 2023 for facilities for the National Guard and reserve components. The detailed funding recommendations are contained in the state list table included in this report.

Further details on projects authorized can be found in the tables in this title and section 4601 of this Act.

Authorized Army National Guard construction and land acquisition projects (sec. 2601)

The committee recommends a provision that would authorize military construction projects for the Army National Guard for fiscal year 2023. The committee recognizes the Department of Defense's significant unfunded military construction requirements and has included an additional \$116.9 million for many of these projects here. The authorized amounts are listed on an installation-by-installation basis.

Authorized Army Reserve construction and land acquisition projects (sec. 2602)

The committee recommends a provision that would authorize military construction projects for the Army Reserve for fiscal year 2023. The committee recognizes the Department of Defense's significant unfunded military construction requirements and has included an additional \$125.5 million for many of these projects here. The authorized amounts are listed on an installation-by-installation basis.

Authorized Navy Reserve and Marine Corps Reserve construction and land acquisition projects (sec. 2603)

The committee recommends a provision that would authorize military construction projects for the Navy Reserve and Marine Corps Reserve for fiscal year 2023. The committee recognizes the Department of Defense's significant unfunded military construction requirements and has included an additional \$137.3 million for many of these projects here. The authorized amounts are listed on an installation-by-installation basis.

Authorized Air National Guard construction and land acquisition projects (sec. 2604)

The committee recommends a provision that would authorize military construction projects for the Air National Guard for fiscal year 2023. The committee recognizes the Department of Defense's significant unfunded military construction requirements and has included an additional \$66.2 million for many of these projects here. The authorized amounts are listed on an installation-by-installation basis.

Authorized Air Force Reserve construction and land acquisition projects (sec. 2605)

The committee recommends a provision that would authorize military construction projects for the Air Force Reserve for fiscal year 2023. The committee recognizes the Department of Defense's significant unfunded military construction requirements and has included an additional \$41.0 million for one project here. The authorized amounts are listed on an installation-by-installation basis.

Authorization of appropriations, National Guard and Reserve (sec. 2606)

The committee recommends a provision that would authorize appropriations for the reserve component military construction projects authorized for construction for fiscal year 2023 in

this Act. This provision would also provide an overall limit on the amount authorized for military construction projects for each of the reserve components of the military departments. The state list contained in this report is the binding list of the specific projects authorized at each location.

Extension of authority to carry out certain fiscal year 2018 projects (sec. 2607)

The committee recommends a provision that would extend the authorization contained in section 2604 of the Military Construction Authorization Act for Fiscal Year 2018, Division B, Title XVI, of the National Defense Authorization Act for Fiscal Year 2018 (Public Law 115-91) for three projects until October 1, 2023, or the date of the enactment of an Act authorizing funds for military construction for fiscal year 2024, whichever is later.

Corrections to authority to carry out certain fiscal year 2022 projects (sec. 2608)

The committee recommends a provision that would amend the authorization contained in section 2601 of the Military Construction Authorization Act for Fiscal Year 2022, Division B, Title XXVI, of the National Defense Authorization Act for Fiscal Year 2022 (Public Law 117-81) for 10 projects.

TITLE XXVII—BASE REALIGNMENT AND CLOSURE ACTIVITIES

Summary and explanation of tables

The budget request included \$284.7 million for the ongoing cost of environmental remediation and other activities necessary to continue implementation of the 1988, 1991, 1993, 1995, and 2005 base realignment and closure rounds. The committee recommends \$284.7 million for these efforts. The detailed funding recommendations are contained in the state list table included in this report.

Authorization of appropriations for base realignment and closure activities funded through Department of Defense base closure account (sec. 2701)

The committee recommends a provision that would authorize appropriations for fiscal year 2023 for ongoing activities that

are required to implement the decisions of the 1988, 1991, 1993, 1995, and 2005 base realignment and closure rounds.

Prohibition on conducting additional base realignment and closure (BRAC) round (sec. 2702)

The committee recommends a provision that would prohibit the Department of Defense from conducting another base realignment and closure (BRAC) round.

The committee notes that, although the Department of Defense did not request authorization to conduct a BRAC round in the request for fiscal year 2023, the Department continues to focus its efforts on studying facility optimization. The committee is encouraged by these efforts and looks forward to reviewing these results prior to the request for any future BRAC round.

TITLE XXVIII—MILITARY CONSTRUCTION AND GENERAL PROVISIONS

SUBTITLE A—MILITARY CONSTRUCTION PROGRAM

Modification of cost thresholds for authority of Department of Defense to acquire low-cost interests in land (sec. 2801)

The committee recommends a provision, as requested by the Department of Defense, that would amend section 2663(c) of title 10, United States Code, to increase the cost limitation from \$750,000 to \$6.0 million. The committee understands that farmland prices have increased by more than 300 percent Nation-wide and the cost limitation in statute has not increased in response since codification in 2003. The intent of this provision is to give clear authority to the services to promptly execute low-cost land acquisitions instead of having to go through the military construction process.

Clarification of exceptions to limitations on cost variations for military construction projects and military family housing projects (sec. 2802)

The committee recommends a provision, as requested by the Department of Defense, that would amend section 2853 of title 10, United States Code, to clarify that the Department may not waive the percentage or dollar cost limitation applicable to a military construction project of a military family housing

project and approve an increase in the authorized cost if the total cost of the project is more than \$500.0 million and 50 percent or more of the original authorized amount.

Elimination of sunset of authority to conduct unspecified minor military construction for lab revitalization (sec. 2803)

The committee recommends a provision that would amend section 2805(d) of title 10, United States Code, by eliminating the sunset of the existing authority to conduct unspecified minor military construction for lab revitalization.

Requirement for inclusion of Department of Defense Forms 1391 with annual budget submission by President (sec. 2804)

The committee recommends a provision that would require each Department of Defense Form 1391 for a military construction project to be delivered concurrently with the annual President's budget request.

Determination and notification relating to Executive orders that impact cost and scope of work of military construction projects (sec. 2805)

The committee recommends a provision that would require the Department of Defense to update the Department of Defense Form 1391 for each military construction project prior to submission of the President's budget request if the cost or scope of work could be impacted by an executive order signed by the President.

Extension of authorization of depot working capital funds for unspecified minor military construction (sec. 2806)

The committee recommends a provision that would amend section 2208(u)(4) of title 10, United States Code, to extend the authorization of depot working capital funds for unspecified minor military construction projects from 2023 to 2025.

Temporary increase of amounts in connection with authority to carry out unspecified minor military construction (sec. 2807)

The committee recommends a provision that would temporarily increase the unspecified minor military construction thresholds for a 3-year period expiring December 1, 2025. The committee notes that this temporary increase is not seen as a

permanent authority and is recommended to combat rising inflation and material costs.

Electrical charging capability construction requirements relating to parking for Federal Government motor vehicles (sec. 2808)

The committee recommends a provision that would direct the Department of Defense to account for the electric load of some electrical vehicle charging infrastructure in the planning and design of a military construction project if that planned military construction project includes parking facilities.

Use of integrated project delivery contracts (sec. 2809)

The committee recommends a provision that would require the Secretary of each military department to enter into at least one integrated project delivery contract for the delivery of a military construction project in fiscal year 2023.

Expansion of pilot program on increased use of sustainable building materials in military construction to include locations throughout the United States (sec. 2810)

The committee recommends a provision that would amend section 2861(b)(2) of the National Defense Authorization Act for Fiscal Year 2022 (Public Law 117-81) to expand the pilot program on the increased use of sustainable building materials in military construction to include locations throughout the United States.

SUBTITLE B—MILITARY HOUSING

Specification of Assistant Secretary of Defense for Energy, Installations, and Environment as Chief Housing Officer (sec. 2821)

The committee recommends a provision that amend subsection (a) of section 2851a of title 10, United States Code, to clarify that the Assistant Secretary of Defense for Energy, Installations, and Environment should serve as the Chief Housing Officer.

Department of Defense Military Housing Readiness Council (sec. 2822)

The committee recommends a provision that would amend chapter 88 of title 10, United States Code, to establish a Department of Defense Military Housing Readiness Council.

Mandatory disclosure of potential presence of mold and health effects of mycotoxins before a lease is signed for privatized military housing (sec. 2823)

The committee recommends a provision that would amend subchapter V of chapter 169 of title 10, United States Code, to require the Secretary of Defense to develop a mold disclosure document to be provided by each landlord to a prospective tenant of military privatized housing.

Implementation of recommendations from audit of medical conditions of residents in privatized military housing (sec. 2824)

The committee recommends a provision that would implement the recommendations contained in the report of the Inspector General of the Department of Defense regarding an audit of medical conditions of residents in privatized military housing. The audit was directed by section 748 of the William M. (Mac) Thornberry National Defense Authorization Act for Fiscal Year 2021 (Public Law 116-283) and recommendations included directing the Army and Air Force to fully populate their entire inventory of privatized military housing units in the enterprise military housing system, to track the implementation of the environmental health and safety module and necessary updates, and to upload current and prior resident information once the inventory is complete. The committee's intent on current and prior resident information is for the Department to comply with policies regarding personally identifiable information data handling and storage and to the extent historic data is available or obtainable.

SUBTITLE C—LAND CONVEYANCES

Conveyance, Joint Base Charleston, South Carolina (sec. 2841)

The committee recommends a provision that would grant the Secretary of the Air Force permissive authority to convey to the City of North Charleston, South Carolina, approximately 26 acres known as the Old Navy Yard at Joint Base Charleston for the purpose of permitting the City of North Charleston to use the property for economic development.

SUBTITLE D—OTHER MATTERS

Integrated master infrastructure plan to support defense of Guam (sec. 2861)

The committee recommends a provision that would require the Secretary of Defense, in consultation with other pertinent Federal agencies, to update the plan required by section 2822 of the National Defense Authorization Act for Fiscal Year 2014 (Public Law 113-66) outlining completion of construction, improvements, and repairs to the nonmilitary utilities, facilities, and infrastructure, if any, on Guam affected by the realignment of forces to reflect current and future plans for the introduction of additional military and supporting nonmilitary capabilities on the island.

The committee believes that the successful implementation of future Department of Defense (DOD) force laydown plans for Guam must account for the additional demands on local infrastructure that such personnel and equipment increases will levy. Additionally, the committee strongly encourages the Department of Defense to examine existing policies and procedures for addressing unexploded ordnance that may be uncovered during excavation and site preparation for future DOD facilities and equipment. The Department should ensure such policies and procedures support the urgency of force emplacement activities and do not unnecessarily delay U.S. Indo-Pacific Command force posture adjustments on the island or impose overly burdensome requirements on planned programs. Therefore, the committee directs the Secretary of the Navy, in consultation with the Secretary of the Air Force, to provide a briefing to the congressional defense committees on the feasibility of developing a risk based approach to the removal of unexploded ordnance during excavation on Guam not later than March 31, 2023.

Repeal of requirement for Interagency Coordination Group of Inspectors General for Guam Realignment (sec. 2862)

The committee recommends a provision, as requested by the Department of Defense, to repeal the requirement for an interagency coordination group of inspectors general for the realignment of troops to Guam.

Temporary authority for acceptance and use of funds for certain construction projects in the Republic of Korea (sec. 2863)

The committee recommends a provision, as requested by the Department of Defense, that would amend section 2863 of the National Defense Authorization Act for Fiscal Year 2020 (Public Law 116-92) to allow the Department to accept contributions toward the construction, rather than just design, of certain military construction projects in the Republic of Korea.

Modification of quitclaim deed between the United States and the City of Clinton, Oklahoma (sec. 2864)

The committee recommends a provision that would require the Secretary of Defense to abrogate certain restrictions and conditions related to the Department of Defense for the quitclaim deed with the city of Clinton, Oklahoma.

Prohibition on joint use of Homestead Air Reserve Base with civil aviation (sec. 2865)

The committee recommends a provision that would prohibit the Secretary of the Air Force from entering into joint use agreements between the Air Force and civil aircraft at Homestead Air Reserve Base, Homestead, Florida, on or before September 20, 2026.

Inclusion of infrastructure improvements identified in the report on strategic seaports in Defense Community Infrastructure Pilot Program (sec. 2866)

The committee recommends a provision that would amend section 2391(d) of title 10, United States Code, to include the consideration of strategic seaports for infrastructure improvements under the Defense Community Infrastructure Program.

Procurement of electric, zero emission, advanced-biofuel-powered, or hydrogen-powered vehicles for the Department of Defense (sec. 2867)

The committee recommends a provision that would require, with certain waivers, that the Department of Defense's fleet of non-tactical vehicles shall be alternatively-fueled vehicles by the end of 2030.

ITEMS OF SPECIAL INTEREST

Accessible Military Housing Enhancement

The Secretary of Defense has yet to provide a briefing due not later than March 1, 2022, as directed by section 2812 of Senate Report 117-39 to accompany the National Defense Authorization Act for Fiscal Year 2022 (Public Law 117-81) on how the Department of Defense (DOD) determines in privatized housing legal agreements that five percent of newly constructed housing units are ADA accessible or adaptable and whether or not the Department believes this percentage should be changed in future agreements. The committee remains concerned about the availability of accessible housing for military families that require it.

Accordingly, the committee directs the Secretary of Defense to brief the committee on the accessibility needs for privatized military housing not later than December 1, 2022. The report shall assess:

(1) How the Secretary determines in agreements for privatized military housing that a certain percentage of newly constructed units of privatized military housing are accessible to individuals with disabilities or adaptable for such individuals;

(2) A description of the current needs of DOD for privatized military housing units that are accessible to individuals with disabilities, including an indication of-

(a) whether those needs are concentrated in specific geographic areas, and if so, which ones; and

(b) how those needs are assessed;

(3) An assessment of the number of individuals who have requested an accessible unit of privatized military housing but cannot be supplied with one;

(4) An indication of whether DOD collects complaints regarding unfulfilled accessibility accommodation requests with respect to existing units of privatized military housing, and if so-

(a) The number of complaints that were received;

(b) The number of complaints that were resolved;

(c) For each complaint that was resolved, a description of how it was resolved; and

(d) An indication of whether the Secretary has conducted outreach to let members of the Armed Forces know how they can report unfulfilled accessibility accommodation requests.

Adak, Alaska

The committee notes that the runway at what was formerly Naval Air Facility Adak has been operating commercially since 1997 and could serve as a viable basing location for P-8 Poseidon aircraft, but would need improvements to the runway. Additionally, in the wake of the Department of Defense's decision to close and defuel Red Hill, it presents an opportunity to store fuel for assets across the Indo-Pacific.

Accordingly, the committee directs the Secretary of the Navy to provide a briefing to the committee, not later than March 1, 2023, on infrastructure investments that would be necessary to operate P-8 Poseidon anti-submarine aircraft from Adak, Alaska. The briefing shall cover necessary infrastructure investments related to the location of P-8 aircraft for emergency operations, episodic operations and exercise support, seasonal rotations of aircraft, permanent basing of such aircraft, regular fueling operations of naval vessels, bulk fuel storage, the strategic implications for use of Adak by joint forces, and the costs associated with refurbishing, expanding, and operating the Adak tank farm at the Port of Adak.

As part of the information and data gathering process for the briefing, the committee directs the Secretary of the Navy to consult with U.S. Indo-Pacific Command, the Defense Logistics Agency, U.S. Transportation Command, the State of Alaska, the Aleut Corporation, and entities that operate existing aviation and fuel infrastructure at Adak.

Army ammunition plants

The committee notes that the Army's Ammunition Plant modernization plan includes several projects for the Iowa Army Ammunition Plant. In particular, the plan includes construction projects for several new critical facilities for the production of long range precision artillery, the loading, assembling, and packing of tank ammunition, and the manufacturing of pressed energetics for large warheads. The committee believes these are prudent and essential capabilities that should be brought on-line as soon as possible. The committee urges the Secretary of the Army to take timely planning, programming, and budgeting actions to ensure these projects are fielded on time as shown in the Army's new Ammunition Plant modernization plan to the Congress.

Briefing on cost benefit of improving facilities for or relocating Fort Douglas reserve component

The committee notes that supporting the National Defense Strategy means that active, guard, and reserve components must

all be able to train properly to ensure adequate readiness levels and operate in habitable, safe infrastructure. The committee believes that Department of Defense programs often fund failing infrastructure when other alternatives may be available.

The committee understands that renovation costs, given the current state of the infrastructure at U.S. Army Reserve Center (USARC) Fort Douglas, exceed \$50.0 million and that there are additional challenges with existing configurations. Units stationed at Fort Douglas have not been able to optimize drills due to the physical configuration of the buildings, and the proximity to the University of Utah presents challenges. The committee understands that there are ongoing discussions between the U.S. Army Reserve at Fort Douglas and the Utah National Guard at Camp W. G. Williams for the potential relocation of the Reserve unit to Camp W. G. Williams, which would provide better home station training opportunities, as well as avoid renovation costs for failing facilities. If such an agreement were to occur, there must be adequate cost data for how the arrangement would be established and sustained.

Accordingly, the committee directs the Secretary of the Army to provide a briefing to the committee, not later than December 1, 2022, on the current state of the infrastructure at USARC Fort Douglas, including the cost of renovations to upgrade the infrastructure at USARC Fort Douglas and a cost/benefit analysis of relocating the facilities, operations, and other program requirements of USARC Fort Douglas to Camp W. G. Williams. The briefing shall include, but not be limited to, the cost of renovations to upgrade the infrastructure at USARC Fort Douglas, including: (1) Aging buildings and systems; (2) Electrical and water systems; (3) Americans with Disabilities Act accessibility standards compliance; (4) Perimeter security, if needed; and (5) Water distribution and storm water concerns. The briefing shall also include a cost/benefit analysis of relocating the facilities, operations, and other program requirements of USARC Fort Douglas to Camp W. G. Williams, including the: (1) Cost of new facilities at Camp W. G. Williams; (2) Cost of the land at Camp W. G. Williams; and (3) Cost of moving operations to Camp W. G. Williams.

Briefing on military housing complaint database

The Department of Defense (DOD) has yet to create the public complaint database regarding housing units that was required by section 3016 of the National Defense Authorization Act for Fiscal Year 2020 (Public Law 116-92). The committee

continues to be concerned about DOD's oversight of the Military Housing Privatization Initiative (MHPI).

Accordingly, the committee directs the Secretary of Defense to brief the committee annually, beginning on March 1, 2023, on the DOD's implementation plan and consultation with other federal agencies until the complaint database is complete. The briefing shall also include information on how DOD tracks and seeks resolution to complaints military families raise to MHPI company property managers, housing maintenance personnel, installation resident advocates, installation military housing personnel, installation commanders, military member's immediate chain of command, military medical providers, point-of-service work order and maintenance surveys, military department customer service, and complaints to DOD or military department inspectors general.

Camp Bull Simons alignment review

The committee understands that Camp Bull Simons is an Air Force-owned, Army-occupied, 500-acre compound on Eglin Air Force Base. The Camp includes over 50 structures and approximately \$1.0 billion of infrastructure; it is the duty station to over 3,000 servicemembers and civilians.

The committee notes that geographic dispersion of Eglin's child development centers (CDCs) makes it difficult for Army families to reasonably access government provided childcare. The committee notes that Camp Bull Simons is physically separated from Eglin by roughly 19.4 miles. Accompanied families working at Camp Bull Simons typically use their Basic Allowance for Housing benefits to live off-post in Crestview, Florida (23.7 miles north of Eglin). The nearest military hospital, Department of Defense Education Activity school, post exchange, commissary, Morale, Welfare, and Recreation gym and CDC designated for use by Special Forces Group servicemembers and their respective families are all located on Eglin.

The committee is concerned that the Army's efforts to address family readiness issues with the Air Force may not be producing adequate solutions for Army families stationed at Camp Bull Simons. The committee understands the Air Force has repeatedly denied the Army's request for a CDC on Camp Bull Simons, citing public safety concerns due to range activities. While the committee shares the public safety concern, no evidence has been provided to the committee showing that such a concern exists and how the Air Force applies said concern equally to all public activities surrounding the range. The committee is interested in better understanding the existing arrangement to determine whether Camp Bull Simons can safely

support an Army funded military construction project to build a CDC to support military families.

Accordingly, the committee directs the Secretary of the Army, in coordination with the Secretary of the Air Force, to provide a briefing not later than December 1 2022, to the committee on the current agreement existing between Camp Bull Simons and Eglin Air Force Base. The briefing shall include but not be limited to:

(1) The process by which both services request military construction and facilities sustainment, restoration, and modernization funds (including the approval process and what Department of Defense regulation dictates);

(2) A review of what constitutes public safety in relation to training range space at Camp Bull Simons, as it pertains to CDCs, as well as local, state, and federal highways;

(3) Copies of all exemptions or certifications required for Air Force use of Camp Bull Simons cantonment area as an active bombing range;

(4) Copies of any memoranda the Army and Air Force have executed to address active range operations around the cantonment area that require area evacuation when testing occurs;

(5) A description of risks to children and noise concerns related to use of Camp Bull Simons cantonment area and how those risks were reconciled within BRAC 2005 safety certifications and Records of Decision approved by the Secretary of the Air Force; and

(6) A review of how the Army and the Air Force are actively working toward a solution to the childcare hardships of Army families, to include direct coordination with those impacted on Camp Bull Simons.

Edgewood area, Aberdeen Proving Ground

The committee notes that Aberdeen Proving Ground, Edgewood Area, contains 63 remnant production plant slabs and 50-year old laboratories that are inactive and mostly vacant. These facilities were formerly used by Edgewood Chemical Biological Center and the Medical Research Institute of Chemical Defense (MRICD).

The committee is encouraged by the Department of Defense's inclusion of specific funding to remove these contaminated facilities, which includes decommissioning, decontamination, and demolition through a phased approach under the Contaminated Building Demolition Program. The Department has already obligated funds, begun demolition, and has programmed additional funds in the out years to continue these efforts. The committee

encourages the Department to continue these funding efforts to ensure demolition activities continue, particularly with significant progress already underway. Demolition of these facilities will result in cost savings of at least \$3.0 million to \$4.0 million per year on infrastructure, maintenance, and security of these unusable buildings and reduce the risk of contamination. The removal of these facilities will have a positive impact on the surrounding missions, including the new MRICD facility, U.S. Army Research, Development, and Engineering Command's Advance Chemistry Laboratory, and the Army Public Health facility.

Energy Resilience Conservation Investment Program flexibility

The committee supports the Department of Defense's (DOD) continued use of the Energy Resilience Conservation Investment Program (ERCIP) to address extreme weather resiliency, energy resiliency, energy surety, and overall energy system efficiencies, as well as projects that mitigate risk and vulnerabilities from adverse weather incidents and impacts. The committee is aware of the DOD's interest in investing in energy resilient infrastructure on installations. The committee supports these efforts and encourages the Department to use all current authorities it has at its disposal to include:

- (1) The authorities under sections 2805 and 2912 of title 10, United States Code;
- (2) The authority under section 2913(d) of such title to enter into agreements with utilities for the purpose of providing or operating charging or refueling stations described in subparagraph (1);
- (3) The authority under section 2914 of such title (known as the Energy Resilience and Conservation Investment Program);
- (4) Energy savings performance contracts as defined by section 804(3) of the National Energy Conservation Policy Act (42 U.S.C. 8287c(3));
- (5) Utility energy services contracts; and
- (6) Other funding mechanisms financed by non-Department entities for the deployment of alternative fuel vehicles and related charging or refueling infrastructure.

Additionally, to ensure that military installations can use these contractual vehicles to support all available energy options to address growing energy resilience and extreme weather mitigation needs, the committee encourages the DOD and the services to allow greater contracting flexibility to allow ERCIP funds to be combined with other DOD funds. For resilience projects specifically, the committee encourages the DOD to allow

ERCIP money to be used with Utility Energy Service Contracts (UESCs) and Area Wide Contracts (AWCs). These contracts also provide the services with the option of using private financing to more rapidly initiate resiliency projects. The committee understands that this flexibility offers the option of providing financing upfront to execute energy resilience projects, which the services can pay back over time in order to upgrade, modernize, and replace installation energy systems more quickly and affordably.

General and Flag Officers quarters

The committee remains concerned about the increased costs for the upkeep and maintenance of many General and Flag Officers quarters (GFOQs), especially for the Army, at installations like Joint Base Myer/Henderson Hall and Fort McNair. It is not uncommon for the committee to receive annual requests for homes on these installations that cost over \$3.5 million per year for maintenance and repair, ground maintenance, painting, service calls, and security.

The committee understands that repairs are necessary to ensure that GFOQs are kept in sanitary, safe, and livable conditions, and recognizes that many GFOQs are required to be preserved and maintained under the provisions of the National Historic Preservation Act (Public Law 89-665, as amended). Understandably, the high costs associated with many GFOQs are a result of some homes having been built in the 19th century.

Accordingly, the committee directs the Assistant Secretary of Defense for Energy, Installations, and Environment to provide a briefing to the committee, not later than March 1, 2023, on a cost estimate of replacing GFOQs built prior to 1970 with a newly constructed home. The briefing shall include all options the Department of Defense can pursue to reduce its aged inventory of GFOQs, including any new legislative options that may be necessary.

Housing shortages and challenges

The committee has heard from numerous defense communities and servicemembers about the challenges they and their families are having in finding safe and affordable homes as prices increase and supply is limited. The committee notes that approximately 70 percent of servicemembers and their families live off the military installation depending on the exact area.

The committee notes that the Army is proactively expanding its portfolio of housing at certain installations where housing shortages and challenges have been identified. The committee

applauds this proactive effort and encourages the other services to pursue a similar approach. In particular, the committee is aware that a number of communities supporting Air Force installations are trying to work with the Air Force to address this housing crisis.

Accordingly, the committee directs the Assistant Secretary of Defense for Energy, Installations, and Environment to provide a briefing to the committee, not later than March 1, 2023, on how the Department of Defense is coordinating efforts to address housing shortages and improve access to affordable housing for servicemembers and their families. The briefing shall consider the results of a series of Dormitory Master Plans, Housing Community Profiles, Family Housing Master Plans, and Housing Requirements and Market Analyses at the impacted locations and shall contain a breakout of how each service is addressing housing shortfall issues and what authorities are being used to accomplish the goals of the plans.

Improving energy efficiency at overseas military installations

The Department of Defense (DOD) operates over 560,000 buildings and structures at over 500 military installations in the United States and overseas. The Department's real property inventory is diverse, encompassing barracks, commissaries, data centers, office buildings, laboratories, and aircraft maintenance depots. Over the years, the DOD's military installations overseas have long helped cultivate diplomatic relationships between host nations and the United States. It is crucial that the Department harness best practices for energy efficiency, not only from existing Department of Energy guidance, but from forward-leaning host nations as well. While DOD Components domestically are encouraged to use alternative financing and are required per various DOD policies to contemplate energy savings in routine operations, less attention has been devoted to energy reduction abroad and partnering with host nation governments on energy efficiency and resilience.

Accordingly, the committee directs the Assistant Secretary of Defense for Energy, Installations, and Environment to conduct a study on ways to improve energy efficiency and security, including cybersecurity, of installations of the DOD outside the United States. The study shall include an analysis of information and best practices regarding energy efficiency learned from the governments of foreign countries at which installations studied are located, including ministries of energy or environment. Not later than March 1, 2023, the Secretary shall provide a briefing to the Committees on Armed

Services of the Senate and the House of Representatives on its findings and recommendations.

Leveraging competition to enhance the cost effectiveness of United States Air Force chiller procurement

The committee notes that in 2019, the Air Force Civil Engineering Center issued a class justification and authorization (Class J&A) for other than full and open competition entitled the HVAC Chiller Replacement Standardization Project. The Class J&A limits chiller purchases to a single company on each Air Force installation, eliminating competition for new purchases through the end of fiscal year 2024. The Air Force's justification for the Class J&A is based on the cost of training personnel, not the initial and operating cost of equipment being procured without competition. Because chillers are purchased as subcontracts for installations projects, there is limited transparency into how the Class J&A is being used, or how much money the Air Force has spent to date on chiller procurements. The committee seeks greater understanding of the metrics the Air Force will use to assess their policy.

Accordingly, the committee directs the Secretary of the Air Force to provide a briefing to the committee on the Class J&A by March 1, 2023. The briefing shall address how the Air Force is tracking spending on chillers awarded under the Class J&A and provide insight into how the Air Force is considering lifecycle cost analysis and changes in education and training for chiller technicians.

Pohakuloa Training Area land lease negotiations

The committees notes that Hawaii is strategically critical to U.S. national security in ensuring a free and open Indo-Pacific region. The committee also believes that Hawaii's contribution to national security must be equally met with a commitment from the Department of Defense (DOD) to respect the land and the people of Hawaii while being good stewards of Hawaii's natural resources. The Department currently maintains 221,981 acres in military land holdings in Hawaii, 39,369 of which are under lease to the Department and are set to expire starting in 2029. In the William M. (Mac) Thornberry National Defense Authorization Act for Fiscal Year 2021 (Public Law 116-283), the Congress directed the DOD to provide a report on all DOD leases in Hawaii and milestones associated with retaining critical land.

Accordingly, the committee directs U.S. Indo-Pacific Command (INDOPACOM) to conduct a study on the requirements for future land force ranges, training areas, and related facilities in Hawaii in light of posture changes in the Indo-Pacific region, evolving concept of operations, and posture requirements in support of long-term strategic competition. The study shall assess the requirement for future training areas against what currently exists, including land which is not currently planned for lease renegotiation. The committee directs the Commander of INDOPACOM to brief the committee on its findings and recommendations not later than March 1, 2023. The committee believes INDOPACOM has an obligation to follow the updated Hawaii Military Land Use Master Plan and work with local community leaders to return land that is not deemed essential as soon as possible.

Secure Compartmented Information Facilities accessibility compliance

The committee acknowledges that ensuring Department of Defense (DOD) buildings meet statutorily required accessibility standards set forth in the Architectural Barriers Act (ABA) and the protection of rights of Federal workforce under the Rehabilitation Act. Section 29 U.S.C. 794 is critical to recruiting and retaining a workforce that fully capitalizes on the talent and crucial warfighting skills resident across the full spectrum of American society. The committee, however, is concerned that many classified and previously classified Government facilities to include secure compartmented information facilities (SCIF) fail to meet these requirements, particularly at the point of entry. This is despite a 2021 Government Services Administration approval for locks compliant with current disability statutory requirements under the ABA and DOD policy objectives, which go above and beyond those requirements.

Accordingly, the committee directs the Secretary of Defense to provide a report, not later than December 1, 2022, on the scope of remediation needed to bring DOD SCIFs to ABA 404.2.9 compliance and how the DOD plans to apply ABA 404.2.9 in its future construction design and lease requirements. This report shall also include any obstacles or impediments to ensuring secure doors otherwise comply with the ABA, access for Federal employees with disabilities, whose rights are protected under the Rehabilitation Act, safety requirements and, if none, how the DOD plans to source equipment to ensure compliance with applicable safety regulations.

Water treatment facilities

The committee is aware that the existing water treatment plant at Marine Corps Air Station Yuma, Arizona, may have difficulty in meeting Federal water quality regulations for maximum contaminant levels and understands that the potable water distribution system contains total dissolved solids (TDS) levels three times that of the Environmental Protection Agency's regulations for TDS. The committee notes that the plant was built in the mid-20th century and continues to support a wide range of tenant commands, as well as family housing.

The committee believes that reliable access to clean, safe drinking water is vital to the Department of Defense's readiness and directs the services to ensure such reliable access for servicemembers and their families, including through necessary military construction. The committee understands the importance of complying with water quality regulations to protect human health and water sources. Lastly, the committee understands the importance of making upgrades necessary to meet these water quality standards and urges the Marine Corps to prioritize these upgrades in determining military construction priorities for fiscal year 2024.

Yuma Proving Ground

The committee notes that U.S. Highway 95 is the sole access route for the Yuma Proving Ground, and growth at the installation and the surrounding community has stretched this two-lane road to capacity. The committee is aware that the Arizona Department of Transportation has already committed to funding the first 6.5 miles of a 20-mile expansion project.

Accordingly, the committee encourages the Secretary of the Army to work collaboratively with the State of Arizona to facilitate the completion of the U.S. 95 widening project and to assist in the identification of funds to support the expansion project to improve access to the installation.

DIVISION C—DEPARTMENT OF ENERGY NATIONAL SECURITY AUTHORIZATIONS AND OTHER AUTHORIZATIONS

TITLE XXXI—DEPARTMENT OF ENERGY NATIONAL SECURITY PROGRAMS

SUBTITLE A—NATIONAL SECURITY PROGRAMS AND AUTHORIZATIONS

National Nuclear Security Administration (sec. 3101)

The committee recommends a provision that would authorize the appropriation of funds for the activities of the National Nuclear Security Administration.

Defense environmental cleanup (sec. 3102)

The committee recommends a provision that would authorize the appropriation of funds for the Department of Energy's defense environmental cleanup activities.

Other defense activities (sec. 3103)

The committee recommends a provision that would authorize the appropriation of funds for the Department of Energy's other defense activities.

Nuclear energy (sec. 3104)

The committee recommends a provision that would authorize the appropriation of funds for the Department of Energy's nuclear energy activities.

SUBTITLE B—PROGRAM AUTHORIZATIONS, RESTRICTIONS, AND LIMITATIONS

Workforce enhancement for National Nuclear Security Administration (sec. 3111)

The committee recommends a provision that would set a term limit of not more than 5 years for the Under Secretary of Nuclear Security, or until a successor is appointed, by and with the advice and consent of the Senate. The provision further provides that the Under Secretary may continue serving after their term expires until such time as a successor is confirmed by the Senate. The provision would also repeal the cap on the total number of full-time employees of the National Nuclear Security Administration.

Acceleration of depleted uranium manufacturing processes (sec. 3112)

The committee recommends a provision that would require the Administrator for Nuclear Security to ensure that the nuclear security enterprise can meet certain timelines for cold hearth melting, net shape casting, operating certain facilities, and converting depleted uranium hexafluoride to depleted uranium tetrafluoride. The provision would also require an annual briefing through 2030, the first of which is to be provided not later than March 31, 2023.

Certification of completion of milestones with respect to plutonium pit aging (sec. 3113)

The committee recommends a provision that would require the scientific advisory group JASON to annually assess the National Nuclear Security Administration's (NNSA) progress towards completing the milestones outlined in the plutonium pit aging roadmap and provide a briefing to the congressional defense committees on the results.

The committee recognizes that building a comprehensive understanding of plutonium pit aging behaviors is a complex process—one that continues to drive advances in materials sciences. However, NNSA's efforts to reestablish a plutonium pit production capability are at least in part predicated on past assessments of pit aging stretching from approximately 2004 through today. The committee understands that NNSA has developed a long-term roadmap to determine the fundamental questions associated with pit aging, and it is essential now that the NNSA commits itself to this roadmap and the science behind it that will be essential to answering the critical questions associated with the U.S. stockpile.

Assistance by the National Nuclear Security Administration to the Air Force for the development of the Mark 21A fuse (sec. 3114)

The committee recommends a provision that would ensure the National Nuclear Security Administration (NNSA) supports the Air Force in development of a modernized fuse that will be integrated with the Mark (Mk) 21A reentry vehicle and the W87-1 warhead.

Given the long history of fuse and warhead design, and recent actions to return legacy fuse work to the NNSA, the committee expects the NNSA to be involved in the development of the Mk21A/W87-1 fuse, and strongly prefers that the NNSA serve as the Mk21A/W87-1 fuse design agent to ensure the fuse meets performance and reliability specifications needed to satisfy U.S. Strategic Command military requirements.

This Mk21A/W87-1 fuse will have to be manufactured to stringent quality control standards, which the NNSA is uniquely aware of from recent fuse manufacturing efforts, and its trusted parts inventory must also be available over the lifetime of the fuse, likely in excess of 30 years. Recent history on other fuse programs, which were returned to the NNSA to be rebuilt because the supplier base had been lost after 30 years, is a costly and painful lesson to the U.S. Government on the unique nature of nuclear weapons, which have exceedingly high quality and trusted component standards with which the NNSA design laboratories and their production plants have decades of experience.

The committee is aware of the limitations imposed by the NNSA's aging design and production infrastructure, as well as the challenges associated with obtaining sufficient resourcing to address these issues in a timely manner. However, the committee expects the NNSA to tailor its resourcing requests to meet Department of Defense requirements, and to provide the Congress with timely and complete resourcing requests through the normal budgeting process given the importance of the MK21A fuse to the overall success of the Sentinel program.

Extension of deadline for transfer of parcels of land to be conveyed to Los Alamos County, New Mexico (sec. 3115)

The committee recommends a provision that would require the Secretary of Energy to remediate, by September 30, 2032, certain parcels of land for conveyance under the jurisdiction of the Secretary of Energy in the vicinity of Los Alamos, New Mexico.

Use of alternative technologies to eliminate proliferation threats at vulnerable sites (sec. 3116)

The committee recommends a provision that would amend section 4306B of the Atomic Energy Defense Act (50 U.S.C. 2569) to allow the Secretary of Energy to use alternative technologies to carry out programs to convert sites identified as presenting risks of proliferation.

Update to plan for deactivation and decommissioning of nonoperational defense nuclear facilities (sec. 3117)

The committee recommends a provision that would amend section 4423 of the Atomic Energy Defense Act (50 U.S.C. 2603) to modify certain requirements for the Department of Energy to plan and carry out the deactivation and decommissioning of nonoperational defense nuclear facilities.

SUBTITLE C—BUDGET AND FINANCIAL MANAGEMENT MATTERS

Modification of cost baselines for certain projects (sec. 3121)

The committee recommends a provision that would amend section 4713(a) of the Atomic Energy Defense Act (50 U.S.C. 2753(a)) to adjust the cost baselines for certain projects to account for inflation.

Unavailability for overhead costs of amounts specified for laboratory-directed research and development (sec. 3122)

The committee recommends a provision that would prohibit national security laboratories from using funds made available for laboratory-directed research and development to cover the costs of general and administrative overhead.

Purchase of real property options (sec. 3123)

The committee recommends a provision that would amend Subtitle E of the National Nuclear Security Administration Act (50 U.S.C. 2461 et seq.) to allow the National Nuclear Security Administration to purchase options for the purchase or lease of real property, subject to certain limitations and requirements.

Determination of standardized indirect cost elements (sec. 3124)

The committee recommends a provision that would require the Deputy Chief Financial Officer of the Department of Energy, in consultation with the Administrator for Nuclear Security and the Director of the Office of Science, to determine standardized indirect cost elements to be reported by contractors to the Administrator. The provision would also include reporting requirements and definitions.

Adjustment of minor construction threshold (sec. 3125)

The committee recommends a provision that would amend the minor construction threshold provided in section 4701(2) of the Atomic Energy Defense Act (50 U.S.C. 2741(2)) to be in base fiscal year 2021 dollars.

Requirements for specific request for new or modified nuclear weapons (sec. 3126)

The committee recommends a provision that would amend section 4209 of the Atomic Energy Defense Act (50 U.S.C. 2529) to modify the required budget request format for certain activities for new or modified nuclear weapons.

Limitation on use of funds for National Nuclear Security Administration facility advanced manufacturing development (sec. 3127)

The committee recommends a provision that would limit the amount of authorized funds available to be used by the director of a nuclear weapons production facility to engage in certain research, development, and demonstration activities.

SUBTITLE D—OTHER MATTERS

Repeal of obsolete provisions of the Atomic Energy Defense Act and other provisions (sec. 3131)

The committee recommends a provision that would amend the Atomic Energy Defense Act (50 U.S.C. 2501 et seq.) by removing outdated reporting and briefing requirements, among other things.

BUDGET ITEMS

W80-4 Sea-launched Cruise Missile

The budget request did not include funding for the National Nuclear Security Administration's research on the W80-4 ALT Sea-launched Cruise Missile.

The committee recommends an increase of \$20.0 million for the W80-4 ALT Sea-launched Cruise Missile.

Savannah River Plutonium Processing Facility

The budget request included \$700.0 million for project 21-D-511, Savannah River Plutonium Processing Facility. The committee recommends an increase of \$500.0 million, of which \$200.0 million is allocated to initiate contracts associated with gloveboxes, \$100.0 million to initiate contracts for long lead materials and equipment, \$165.0 million for demolition and removal of items within the Mixed Oxide Fuel buildings, and \$35.0 million to prepare the site for construction.

Secondary Capability Modernization

The budget request included \$536.4 million for the National Nuclear Security Administration's Secondary Capability Modernization activities. The committee recommends an increase of \$8.0 million to procure an additional calciner at Building 9212 at the Y-12 National Security Complex to help deinventory liquid uranium streams.

Inertial Confinement Fusion

The budget request included \$544.1 million for the National Nuclear Security Administration's Inertial Confinement Fusion program, a 6 percent decrease from the fiscal year 2022 enacted level of \$580.0 million.

The committee recommends an increase of \$40.0 million to cover refurbishment activities at the Rochester, Sandia, and Livermore high energy density facilities, as well as increased run-time for operations. These facilities are now in need of refurbishment having been operating for 10 or more years under very high energy density conditions, which cause wear on high voltage electronics and laser gain media.

Advanced Simulation and Computing

The budget request included \$742.6 million for the National Nuclear Security Administration's Advanced Simulation and Computing program, a 1 percent decrease from the fiscal year 2022 enacted level of \$747.0 million.

Given the transition to Exascale computing, as well as the integration of machine learning and artificial intelligence in pre-processors, the committee recommends an increase of \$10.0 million.

Operations of Facilities

The budget request included \$1.0 billion for the National Nuclear Security Administration's (NNSA) Operations of Facilities program. Given the high workload at the NNSA uranium facilities, the committee recommends an increase of \$8.0 million.

Maintenance and Repair of Facilities

The budget request included \$680.0 million for the National Nuclear Security Administration's (NNSA) Maintenance and Repair of Facilities program, a 3 percent decrease from the fiscal year 2022 enacted level of \$700.0 million. Given the high

workload at the NNSA facilities, especially those processing uranium, the committee recommends an increase of \$10.0 million.

West End Protected Area Reduction project

The budget request included \$3.9 million for the National Nuclear Security Administration's West End Protected Area Reduction project number 17-D-710. Given the importance of reducing the protected boundary of the weapons work at the uranium facilities, so that World War II-era vacant buildings can be torn down, the committee recommends an increase of \$8.0 million to accelerate the project.

Bioassurance Program

The budget request included \$20.0 million for the National Nuclear Security Administration's (NNSA) Bioassurance Program, a new initiative in fiscal year 2023, so that the NNSA can provide base funding to support other agencies' requests to utilize unique NNSA facilities, such as large-scale computing for genetic sequencing.

The committee continues to assess longer-term planning for this program. The committee recommends a decrease of \$15.0 million and, elsewhere in this report, directs the NNSA to provide to the congressional defense committees a detailed 5-year funding plan.

Office of River Protection radioactive liquid tank waste stabilization and disposition

The budget request included \$801.1 million for the Department of Energy's Office of River Protection radioactive liquid tank waste stabilization and disposition, a 4.4 percent decrease from the fiscal year 2022 enacted level of \$837.8 million. The committee recommends an increase of \$10.0 million to continue the management and stabilization of the liquid radioactive waste tanks.

Lawrence Livermore National Laboratory excess facilities decontamination and demolition

The budget request included \$12.0 million for the Department of Energy's excess facility decontamination and demolition activities at Lawrence Livermore National Laboratory, a 65.7 percent decrease from the fiscal year 2022 enacted level of \$35.0 million. The committee recommends an increase of \$10.0 million to continue the decontamination and demolition of excess

facilities so that additional space can be made available on the laboratory campus.

Oak Ridge nuclear facility decontamination and demolition

The budget request included \$334.2 million for the Department of Energy's nuclear facility decontamination and demolition program at the Oak Ridge Y-12 plant to remove vacant and hazardous facilities, which is a 1 percent decrease from the fiscal year 2022 enacted level of \$337.1 million. The committee recommends an increase of \$5.0 million to continue stabilizing and demolishing vacant facilities at the Oak Ridge Y-12 National Security Complex.

Savannah River Site radioactive liquid tank waste stabilization

The budget request included \$851.7 million for the Department of Energy's radioactive liquid waste stabilization program at the Savannah River Site to continue stabilizing and vitrifying the radioactive liquid tank waste, which is a 4.2 percent decrease from the fiscal year 2022 enacted level of \$889.3 million. The committee recommends an increase of \$10.0 million to continue stabilizing and vitrifying the radioactive liquid waste.

Waste Isolation Pilot Plant construction

The budget request included \$84.1 million for the construction projects at the Waste Isolation Pilot Plant, which is a 6.6 percent decrease from the fiscal year 2022 enacted level of \$90.0 million. The committee recommends an increase of \$6.0 million to continue construction activities at the Waste Isolation Pilot Plant for the ventilation system and exhaust shaft.

Uranium Enrichment Decontamination and Decommissioning Fund

The budget request included \$6.9 billion for the Department of Energy's Office of Environmental Management, of which \$417.0 million was requested to transfer to the Uranium Enrichment Decontamination and Decommissioning Fund. This fund was authorized in section 1101 of the Energy Policy Act of 1992 (Public Law 102-486) but expired in 2007.

As indicated in the National Defense Authorization Act for Fiscal Year 2013 (Public Law 112-239), the National Defense Authorization Act for Fiscal Year 2014 (Public Law 113-66), the Carl Levin and Howard P. 'Buck' McKeon National Defense

Authorization Act for Fiscal Year 2015 (Public Law 113-291), the National Defense Authorization Act for Fiscal Year 2016 (Public Law 114-92), and the National Defense Authorization Act for Fiscal Year 2022 (Public Law 117-81), the administration should propose to directly contribute to this fund rather than use the Office of Environmental Management's budget as a contribution source.

Accordingly, the committee recommends a decrease of \$417.0 million from the Federal contribution to the Uranium Enrichment Decontamination and Decommissioning Fund.

ITEMS OF SPECIAL INTEREST

Comptroller General review of End State Contracting task orders

The committee notes that the Department of Energy's Office of Environmental Management's (EM) implementation of the End State Contracting Model represents a new method of contracting in its use of post-award task orders. These task orders must be negotiated between EM and the contractor. The use of such task orders—and the need to define requirements, contract type, and prices—requires additional effort and specific training in order to be successful. Previous Government Accountability Office (GAO) reviews have revealed problems with EM's management of contracts and major projects, which have been on GAO's High Risk List since 1990.

The committee directs the Comptroller General of the United States to evaluate the extent to which EM has established processes and trained staff to implement, manage, and monitor all End State Contracting Model task orders. The Comptroller General shall provide preliminary observations to the congressional defense committees not later than May 1, 2023, with a report to follow on an agreed upon date.

Comptroller General review of Office of Environmental Management's strategy for complex-wide waste disposal

The Department of Energy's Office of Environmental Management (EM) is responsible for the disposal of different waste streams across the EM complex and has yet to make a final decision for how to dispose of some of this waste, including supplemental low-activity waste from the Hanford Site, greater-than-class C waste, depleted uranium oxide from the depleted uranium hexafluoride conversion facilities, and low-level waste from cleanup of the gaseous diffusion plants. Although several Federal and commercial disposal facilities exist across the United States, many of these sites are limited in what waste

they can or will accept for regulatory, policy, environmental, or capacity reasons.

The committee directs the Comptroller General of the United States to evaluate what waste streams EM is currently managing or plans to generate that do not yet have a disposal pathway and the extent to which EM has an integrated strategic plan for waste disposal across the EM complex. The Comptroller General shall provide preliminary observations to the congressional defense committees not later than May 1, 2023, with a report to follow on an agreed upon date.

Comptroller General review of the Office of Environmental Management's workforce capacity, skills, retention, and hiring

The Department of Energy's (DOE) Office of Environmental Management (EM) is facing significant workforce challenges, as more than half of its employees are eligible for retirement in the next 5 years. Moreover, a Government Accountability Office (GAO) report published March 15, 2022, titled "Waste Isolation Pilot Plant: Construction Challenges Highlight the Need for DOE to Address Root Causes" (GAO-22-105057) noted workforce shortages at the Waste Isolation Pilot Plant and in EM's acquisitions workforce.

The committee directs the Comptroller General of the United States to evaluate the extent to which EM has assessed whether it has sufficient capacity and skills needed to meet EM's mission and EM's actions to address increasing attrition due to retirements and resignations and to hire new employees to replace them. The Comptroller General shall provide preliminary observations to the congressional defense committees not later than May 1, 2023, with a report to follow on an agreed upon date.

Comptroller General review of the Savannah River Site's H-Canyon

During the Cold War, the Department of Energy (DOE) produced nuclear materials for nuclear weapons at its Savannah River Site by dissolving highly radioactive spent nuclear fuel from reactors in a facility known as H-Canyon. The DOE had planned to end H-Canyon operations in 2007, but in 2006, the DOE proposed extending the operating life of H-Canyon to 2019 to downblend highly-enriched uranium to low-enriched uranium, which it would then sell to the Tennessee Valley Authority.

DOE's contract for selling downblended low-enriched uranium to the Tennessee Valley Authority is now expiring, and DOE's Office of Environmental Management (EM) has proposed changing H-Canyon's mission to dissolving the spent nuclear fuel

stored in L-basin, which contains highly-enriched uranium. According to EM, it could potentially save billions of dollars if H-Canyon is able to accelerate the de-inventory of L-basin, which would in turn allow the basin to be decommissioned up to 15 years earlier than planned. In light of the aging infrastructure of H-Canyon, the committee is concerned about the extent to which DOE can safely operate H-Canyon to carry out this proposed mission.

Therefore, the committee directs the Comptroller General of the United States to provide preliminary observations to the congressional defense committees, not later than May 1, 2023, with a report to follow on an agreed upon date, that shall address the following elements:

(1) The costs to maintain, upgrade, and operate H-Canyon;

(2) The safety requirements for this operation and the extent to which the H-Canyon can meet modern safety standards to complete this work; and

(3) How EM's proposed plans would affect the site's tank waste mission.

Comptroller General to continue ongoing evaluation of the Hanford Waste Treatment Plant

The committee notes that the Department of Energy's Office of Environmental Management (EM) continues to appear on the Government Accountability Office's High Risk List report, which cites programs vulnerable to waste, fraud, abuse, and mismanagement. EM's largest project resides in Hanford, Washington. This site, whose mission is nuclear waste cleanup and environmental restoration, has faced numerous technical challenges, cost overruns, and schedule delays.

Therefore, the committee directs the Comptroller General of the United States to continue its ongoing evaluation of environmental cleanup efforts at the Hanford Site, including the Waste Treatment Plant, in the areas of cost-schedule performance, technology readiness levels, contractor assurance, project management, as well as the start of Direct-Feed Low-Activity Waste treatment and Hanford's long-term schedule and budget needs, with a preliminary briefing at a date to be mutually agreed upon.

Comptroller General to continue ongoing oversight of the Waste Isolation Pilot Plant

The committee notes that the severity of the 2014 accidents at the Waste Isolation Pilot Plant (WIPP) necessitates

biannual briefings to the congressional defense committees on actions taken towards bringing the WIPP toward full operational status, including contractor oversight, general plant operations planning, as well as DOE's prioritization of transuranic waste planned for shipment to the WIPP.

The committee directs the Comptroller General of the United States to review these biannual updates and periodically provide briefings to the congressional defense committees on significant findings and trends. The Comptroller General shall provide the first briefing not later than May 1, 2023, with a report to follow at a time agreed upon with the committees.

Cybersecurity at nuclear weapons complexes of the National Nuclear Security Administration

Cybersecurity of the nuclear weapons complex is of paramount concern based on modern adversary threat vectors for ongoing modernization programs. Therefore, not later than March 31, 2023, the committee directs the Administrator for Nuclear Security to submit to the congressional defense committees a report for funding cybersecurity at the nuclear weapons complex of the National Nuclear Security Administration. The report shall be disaggregated by each site of the NNSA and include a description of the cybersecurity requirements of each site and the percentage of the funding for cybersecurity that is currently funded, directly or indirectly against the current requirements.

Department of Energy contracting

On May 16, 2022, the National Nuclear Security Administration (NNSA) cancelled the combined contract for management and operations (M&O) of the Pantex Plant and Y-12 National Security Complex awarded on November 29, 2021, in order to significantly re-scope the subsequent M&O contracts for Pantex and Y-12. While the committee does not oppose the cancellation decision, the lack of transparency into the factors or metrics used to make this decision raises concerns regarding the potential benefits of such a strategy, given that the NNSA's current approach does not envision awarding new M&O contracts for several more years. The committee believes the NNSA's approach risks undermining workforce confidence in both locations due to the lack of a clearly articulated public strategy.

The committee previously expressed concern about a lack of predictability in the contracting schedule for large M&O contracts, as well as contracts for decontamination and

decommissioning (D&D) and remediation, in the Senate report accompanying S. 1519 (S. Rept. 115-125) of the National Defense Authorization Act for Fiscal Year 2018. The committee also observes that while the NNSA has made significant strides in improving its contract and project management oversight performance over the past decade, it remains on the Government Accountability Office's "High Risk List" since its designation in 2009.

Additionally, the committee is concerned that extended delays in the contracting process can pose a risk to the mission in cases where under-performing incumbents are unable to be replaced in a timely manner. Therefore, the committee directs the Comptroller General of the United States, as part of its ongoing work to review M&O and D&D contracts, to examine factors contributing to long delays between initial solicitations and final awards, and the metrics used to measure those factors. The Comptroller General shall provide a briefing with preliminary observations of this review to the Committees on Armed Services of the Senate and the House of Representatives not later than April 1, 2023, followed by a report to be delivered on a mutually agreeable date.

Domestic uranium enrichment

The committee recognizes that a domestic uranium enrichment capability is vital for U.S. national security. To advance and maintain this capability, the committee supports ongoing efforts by the National Nuclear Security Administration (NNSA) to establish and implement long-term plans for continued research, development, and demonstration of enrichment technologies to support deployment decisions. In addition, the committee supports activities that increase the Technology Readiness Level of enrichment technologies to facilitate deployment, improve the economics and reliability of these technologies, and maintain Federal Government expertise in this area.

The committee also recognizes the trilateral Australia-United Kingdom-United States security pact as a sea change in joint capability development and interoperability. Therefore, the committee directs the Administrator for Nuclear Security, not later than March 31, 2023, to provide the congressional defense committees a report on the current enriched uranium supply and demand curves, taking into account potential requirements for the United States to provide fuel cores for a future Australian submarine fleet.

Extending provision to continue reviewing National Nuclear Security Administration financial integration

The National Nuclear Security Administration (NNSA) has taken steps to implement a common financial reporting system, as required in the National Defense Authorization Act for Fiscal Year 2017 (Public Law 114-328). The committee expects NNSA to continue its efforts to collect accurate and complete financial data that are comparable across contractors, and to use these data for program and project management, decision-making, and reporting total program costs. The Government Accountability Office (GAO) has issued three reports on NNSA's efforts that have included recommendations to improve NNSA's common financial reporting system, published January 31, 2019, titled "National Nuclear Security Administration: Additional Actions Needed to Collect Common Financial Data" (GAO-19-101); published January 16, 2020, titled "National Nuclear Security Administration: Additional Verification Checks Could Improve the Accuracy and Consistency of Reported Financial Data" (GAO-20-180); and published February 2022, titled "National Nuclear Security Administration: Actions Needed to Improve Usefulness of Common Financial Data" (GAO-22-104810).

The committee expects the Administrator for Nuclear Security to fully implement these recommendations. Further, the committee directs the Comptroller General of the United States to continue its periodic reviews of NNSA's financial integration efforts, as originally directed in the Senate report accompanying S. 1519 (S. Rept. No. 115-125) of the National Defense Authorization Act for Fiscal Year 2018, for fiscal years 2023 through 2025 on a schedule to be determined with the committee.

Five year bio-assurance report

Elsewhere in this report, the committee recommends a reduction of \$15.0 million to the budget request of \$20.0 million for a new start program titled bio-assurance. The committee believes that prudent planning demands a detailed plan for baseline funding to support such activities to ensure the National Nuclear Security Administration (NNSA) can be held accountable for any growth that might occur.

Therefore, the committee directs the Administrator for Nuclear Security to provide to the congressional defense committees a detailed 5-year funding plan, not later than February 28, 2023, that describes:

(1) Which laboratories and plants will receive such funding;

(2) Which facilities NNSA expects will be utilized under the program;

(3) The personnel expected to be supported (e.g. full-time staff members, post-doctoral researchers, or students);

(4) Other agencies that this baseline funding would support;

(5) Past examples of and outcomes from such support; and

(6) A clear rationale for why such activities should not be resourced within other U.S. Government agencies currently conducting biological research as part of their core missions.

The NNSA has world-class facilities for high performance computing, mathematics, and analytical chemistry that should be made available, where possible, to other agencies, given the current pandemic and future ones the United States may face. However, these resources are made available to other agencies under other existing arrangements and it is not obvious why bio-assurance activities should not be conducted in a similar fashion.

National Nuclear Security Administration planning for National Ignition Facility/Inertial Confinement Fusion program

The National Nuclear Security Administration's (NNSA) Inertial Confinement Fusion (ICF) program relies primarily on three facilities to conduct high energy density experiments and research: (1) The National Ignition Facility at Lawrence Livermore National Laboratory; (2) The Z Machine at Sandia National Laboratories; and, (3) The Omega Laser at the University of Rochester. The ICF program provides scientific understanding and experimental capabilities that enable assessment and certification of the U.S. nuclear weapons stockpile and supports long-term research and development efforts in ignition science and ignition-generated fusion.

The committee notes that balancing these missions has put a strain on infrastructure. It is essential to ensure that infrastructure is appropriately maintained and can continue to support nuclear weapon modernization programs and the stockpile stewardship mission.

Therefore, the committee directs the Administrator for Nuclear Security to develop a comprehensive ICF 10 Year Plan covering fiscal years 2023-2033, and to submit the plan to the congressional defense committees not later than December 31, 2023. The plan should include, but not be limited to, the following:

(1) A strategy for balancing work across multiple missions, including cost recovery or cost-sharing where appropriate;

(2) Projected total ICF budget estimates, based on data about recent program cost;

(3) Current and projected maintenance budget, deferred maintenance of facilities, and plans to address maintenance needs;

(4) Significant planned and potential facility recapitalization or upgrades to existing facilities;

(5) Projected shot rate and discussion of what is maximal and sustainable;

(6) ICF support required by specific current and planned nuclear weapons modernization programs; and,

(7) Integration with NNSA's Advanced Computing and Simulation program, whose high performance computers will use ICF-generated data.

National Nuclear Security Administration small business contracting

The National Nuclear Security Administration (NNSA) contracts with small businesses each year through direct contracts with small businesses or first-tier subcontracts through its large management and operating (M&O) contracts. The committee directs the Comptroller General of the United States to review NNSA's approach to contracting with small businesses and achieving its small business contracting goals. The Comptroller General shall provide a briefing to the committee on plans for the review not later than December 31, 2023, with a report to follow on at a date agreed upon at the time of the briefing. The review shall address:

(1) How NNSA and M&O contractors determine which goods and services to purchase from small businesses;

(2) The types of goods and services that NNSA or M&O contractors have purchased from small businesses;

(3) Whether the plans to subcontract with small businesses outlined in offers for M&O contracts are being implemented under M&O contracts once awarded;

(4) The differences, if any, in NNSA and its M&O contractors' planned obligations to contracts with small businesses and the actual obligation and expenditure amounts under such contracts; and

(5) How DOE monitors M&O contractors' obligations and expenditures for subcontracts with small businesses.

National Nuclear Security Administration's foundational nuclear nonproliferation capabilities

The National Nuclear Security Administration (NNSA) has identified risks to its ability to provide a stable foundation for its nuclear nonproliferation programs into the future, such as challenges stemming from an aging and retiring workforce, as well as potentially more diverse pathways by which adversaries could develop nuclear weapons. In response, NNSA has taken some steps to develop and recruit new expertise and identify the resources it may need to deal with a changing threat landscape.

The committee directs the Comptroller General of the United States to conduct a review on the scope and effectiveness of NNSA's efforts to sustain the foundational workforce, technology, and infrastructure assets for the agency's nuclear nonproliferation mission. Specifically, the review shall assess:

(1) NNSA's programs and other initiatives that seek to strengthen its nonproliferation workforce, including its management and operating contractors;

(2) The condition of NNSA's nonproliferation infrastructure, including identifying maintenance, recapitalization, and replacement needs, and any new infrastructure that may be under evaluation; and

(3) The extent to which NNSA's programming and planning process identifies levels of budgetary resources to implement these efforts.

The Comptroller General shall notify the committee when the work is initiated and subsequently submit a report to the committees at a date agreed upon at the time of initiation.

Nuclear weapons industrial base risks and gaps

The committee notes that the National Nuclear Security Administration (NNSA) has failed to provide annual briefings and reports as required under section 3113 of the William M. (Mac) Thornberry National Defense Authorization Act for Fiscal Year 2021 (Public Law 116-283), as amended, related to gaps and risks in the nuclear weapons industrial base and NNSA's progress in addressing those gaps and risks. The committee emphasizes the importance of NNSA developing a robust industrial base monitoring and risk assessment capability to ensure supply of critical stockpile materials, components, and subcomponents.

Following NNSA's submission of its first required report, the committee directs the Comptroller General of the United States to undertake a comprehensive review of NNSA's plans for addressing gaps and risks to the nuclear weapons industrial base. Such a review shall include an assessment of:

(1) The progress the NNSA has made in establishing a capability to monitor, track, and identify such gaps and risks;

(2) The necessary actions, resources, timelines, and coordination efforts the NNSA has identified to address gaps and risks; and

(3) How the actions the NNSA has taken to address nuclear weapon industrial base gaps and risks compare to industrial base management actions taken by other agencies.

The Comptroller General shall provide a briefing to the congressional defense committees on its preliminary findings within 180 days of NNSA's submission of its report and shall subsequently submit a report to the committees at a date agreed upon at the time of the briefing.

Nuclear weapons life cycle

The committee believes a streamlined and flexible weapon acquisition process is an important component of a responsive nuclear security enterprise. Currently, nuclear weapons are designed, developed, produced, maintained, retired, and dismantled in a seven-phase process known as the Phase X Process. The committee is concerned that the current rate of execution for this process is insufficient to pace the evolving global security environment and respond to a significant change in deterrence requirements. For example, the National Nuclear Security Administration's Stockpile Stewardship and Management Plan for Fiscal Year 2022 indicates it expects study and engineering phases for the W93 submarine launched ballistic missile warhead to take at least 12 years, transitioning to production sometime between 2034 and 2036. The committee believes such extended timelines are simply not tenable for the current and future threat environments.

Therefore, the committee directs the Administrator for Nuclear Security, in coordination with the Under Secretary of Defense for Acquisition and Sustainment and the Vice Chairman of the Joint Chiefs of Staff, to conduct an unconstrained review of the Phase X Process, including associated Department of Defense processes, such as military requirements development, and to provide a report to the defense committees, not later than May 1, 2023. The report shall include recommendations for changes that would accelerate and streamline bureaucratic processes, increase responsiveness, and ensure the weapon acquisition process adequately prioritizes schedule and capability.

Periodic review of National Nuclear Security Administration infrastructure

The Comptroller General of the United States is currently conducting a review of the National Nuclear Security Administration's (NNSA) portfolio of line item construction projects, focusing on large projects with a total cost in excess of \$100.0 million. As the committee has previously noted, NNSA is undertaking an unprecedented number of construction projects as part of its nuclear modernization plans.

As NNSA's management of these projects will continue over the next few decades, and the agency has a past record of schedule delays and cost overruns on large projects, the committee directs the Comptroller General to continue the review of NNSA's large construction projects on a biennial basis and submit a final report every other year on a date agreed to by the committee.

Periodic review of National Nuclear Security Administration weapons systems

The committee notes that the National Nuclear Security Administration (NNSA) plans to spend billions of dollars over the next two decades refurbishing nuclear warheads and bombs through life extension programs, as well as starting a new weapon modernization program. The committee believes that NNSA's past record makes close oversight essential to ensure that performance issues, such as schedule delays, scope changes, or cost overruns, are closely monitored and that the committee has independent knowledge of program progress.

Therefore, the committee directs the Comptroller General of the United States to review the status of NNSA's portfolio of life extension programs and weapon acquisition or modernization programs, focused on cost and schedule performance and key acquisition process milestones. The committee further directs the Comptroller General to submit an initial report on a date to be determined in coordination with the committee, and thereafter to continue this review on a biennial basis.

Report on Department of Energy Office of Environmental Management Test Bed Initiative

The committee has noted that the cost of using grout as an alternative to vitrifying the supplemental low level waste (SLAW) at the Hanford reservation may be as low as 10 percent the cost of glass vitrification, saving some \$20.0 billion. Section 3134 of the National Defense Authorization Act for Fiscal Year 2017 (Public Law 114-328) and section 3125 of the William M. (Mac) Thornberry National Defense Authorization Act for Fiscal Year 2021 (Public Law 116-283) have continued to task

the Department of Energy to contract with a federally funded research and development center (FFRDC) to investigate the use of grouting (and other technologies), including what additional secondary waste could result from the use of grout, what additional pre-treatment may be required for the use of grout, and the potential to dispose of the grout outside the Hanford reservation at a facility licensed by the Nuclear Regulatory Commission (NRC). These sections also tasked the Department to enter into an agreement with the National Academies of Sciences to peer review the FFRDC analysis with public input.

The disposal of the supplemental low level waste is particularly important given the cost savings from using grout, as well as the fact that tank lifetime that the waste is presently stored in at the Hanford reservation will incur greater risk over time. As part of this effort, the Department has undertaken a pilot program to test methodologies to turn low level waste from the Hanford storage tanks into grout. In 2017, the Department successfully turned 3 gallons of low level tank waste into grout (known as the "Test Bed Initiative") and disposed of it at a NRC-licensed facility in Andrews, Texas, as class A waste. The Department has subsequently proposed to turn 2000 gallons of low level waste into grout and has received \$10.0 million in appropriations to do so.

The first report by the National Academies of Sciences from section 3125 of the William M. (Mac) Thornberry National Defense Authorization Act for Fiscal Year 2021, dated January 6, 2022, recommended a similar risk-based approach stating, "Reframing the fundamental question to be addressed in the FFRDC analysis going forward as: How can decisions about treatment of SLAW facilitate the fastest removal of the waste from the tanks and into a disposal facility, all things considered (e.g., budget limits, technology uncertainties, and regulatory acceptability)? This reframing will focus consideration on the most pressing issue of the risks of tank containment breach."

Therefore the committee directs the Assistant Secretary for the Department of Energy Office of Environmental Management to submit to the congressional defense committees a long-term plan for the development of grout consistent with the ongoing efforts of the FFRDC, the peer review by the National Academies, and the programmatic effort within the Department titled the "Test Bed Initiative," not later than February 28, 2023. The report shall include not only a long-term plan for the Test Bed Initiative but the required funding and other hurdles that may impede its progress.

TITLE XXXII—DEFENSE NUCLEAR FACILITIES SAFETY BOARD

Authorization (sec. 3201)

The committee recommends a provision that would authorize funding for the Defense Nuclear Facilities Safety Board at \$41.4 million, consistent with the budget request.

Delegation of authority to Chairperson of Defense Nuclear Facilities Safety Board (sec. 3202)

The committee recommends a provision that would amend section 311 of the Atomic Energy Act of 1954 (42 U.S.C. 2286) to delegate limited authority to the Chairperson, under certain constraints and with notification.

TITLE XXXV—MARITIME ADMINISTRATION

Maritime Administration (sec. 3501)

The committee recommends a provision that would reauthorize certain aspects of the Maritime Administration.

DIVISION D—FUNDING TABLES

TITLE XLI—PROCUREMENT

Procurement (sec. 4101)

Procurement for overseas contingency operations (sec. 4102)

TITLE XLII—RESEARCH, DEVELOPMENT, TEST, AND EVALUATION

Research, development, test, and evaluation (sec. 4201)

Research, development, test, and evaluation for overseas contingency operations (sec. 4202)

TITLE XLIII—OPERATION AND MAINTENANCE

Operation and maintenance (sec. 4301)

Operation and maintenance for overseas contingency operations (sec. 4302)

TITLE XLIV—MILITARY PERSONNEL

Military personnel (sec. 4401)

Military personnel for overseas contingency operations (sec. 4402)

TITLE XLV—OTHER AUTHORIZATIONS

Other authorizations (sec. 4501)

Other authorizations for overseas contingency operations (sec. 4502)

TITLE XLVI—MILITARY CONSTRUCTION

Military construction (sec. 4601)

Military construction for overseas contingency operations (sec. 4602)

TITLE XLVII—DEPARTMENT OF ENERGY NATIONAL SECURITY PROGRAMS

Department of Energy national security programs (sec. 4701)

Authorization of amounts in funding tables (sec. 4001)

The committee recommends a provision that would provide for the allocation of funds among programs, projects, and activities in accordance with the tables in division D of this Act, subject to reprogramming in accordance with established procedures.

Consistent with the previously expressed views of the committee, the provision would also require that decisions by an agency head to commit, obligate, or expend funds to a specific entity on the basis of such funding tables be based on authorized, transparent, statutory criteria, or merit-based selection procedures in accordance with the requirements of

sections 2304(k) and 2374 of title 10, United States Code, and other applicable provisions of law.

LEGISLATIVE REQUIREMENTS

COMMITTEE ACTION

SENATE ARMED SERVICES COMMITTEE
ROLL CALL VOTES DURING FULL COMMITTEE MARKUP OF
THE NATIONAL DEFENSE AUTHORIZATION ACT FOR FISCAL YEAR 2023

In compliance with Rule XXVI 7(3)(b) of the Standing Rules of the Senate, listed below is a tabulation of the roll call votes.

1. MOTION: To include a provision that would raise the topline for inflation costs and for other purposes.

VOTE: Passed by roll call vote 25-1

In favor: Senators Reed, Shaheen, Gillibrand, Blumenthal, Hirono, Kaine, King, Peters, Manchin, Duckworth, Rosen, Kelly, Inhofe, Wicker, Fischer, Cotton, Rounds, Ernst, Tillis, Sullivan, Cramer, Scott, Blackburn, Hawley, and Tuberville

Opposed: Senator Warren

2. MOTION: To include a provision that would provide for the modernization of the Selective Service System.

VOTE: Passed by roll call vote 20-6

In favor: Senators Reed, Shaheen, Gillibrand, Blumenthal, Hirono, Kaine, King, Warren, Peters, Manchin, Duckworth, Rosen, Kelly, Fischer, Ernst, Tillis, Sullivan, Scott, Blackburn, and Tuberville

Opposed: Senator Inhofe, Wicker, Cotton, Rounds, Cramer, and Hawley

3. MOTION: To include a provision that would express the policy of the United States regarding the draft.

VOTE: Failed by roll call vote 12-14

In favor: Senators Inhofe, Wicker, Fischer, Cotton, Rounds, Ernst, Tillis, Sullivan, Cramer, Scott, Blackburn, and Tuberville

Opposed: Senators Reed, Shaheen, Gillibrand, Blumenthal, Hirono,

Kaine, King, Warren, Peters, Manchin, Duckworth, Rosen, Kelly, and Hawley

4. MOTION: To include a provision to limit the authority of the Secretary of Defense to procure and use electric vehicles.

VOTE: Failed by roll call vote 9-17

In favor: Senators Inhofe, Wicker, Cotton, Sullivan, Cramer, Scott, Blackburn, Hawley, and Tuberville

Opposed: Senators Reed, Shaheen, Gillibrand, Blumenthal, Hirono, Kaine, King, Warren, Peters, Manchin, Duckworth, Rosen, Kelly, Fischer, Rounds, Ernst, and Tillis

5. MOTION: To include a provision that would strike the section requiring all Department of Defense nontactical vehicles to be electric or zero emission vehicles.

VOTE: Failed by roll call vote 13-13

In favor: Senators Reed, Shaheen, Gillibrand, Blumenthal, Hirono, Kaine, King, Warren, Peters, Manchin, Duckworth, Rosen, and Kelly

Opposed: Senators Inhofe, Wicker, Fischer, Cotton, Rounds, Ernst, Tillis, Sullivan, Cramer, Scott, Blackburn, Hawley, and Tuberville

6. MOTION: To include a provision that would require the Secretary of Defense to carry out a pilot program on the use of sustainable aviation fuel by the Department of Defense.

VOTE: Passed by roll call vote 16-10

In favor: Senators Reed, Shaheen, Gillibrand, Blumenthal, Hirono, Kaine, King, Warren, Peters, Manchin, Duckworth, Rosen, Kelly, Fischer, Ernst, and Blackburn

Opposed: Senators Inhofe, Wicker, Cotton, Rounds, Tillis, Sullivan, Cramer, Scott, Hawley, and Tuberville

7. MOTION: To include a provision to improve the treatment by the Department of Defense of perfluoroalkyl substances, polyfluoroalkyl substances, and other hazardous substances and waste.

VOTE: Failed by roll call vote 13-13

In favor: Senators Reed, Shaheen, Gillibrand, Blumenthal, Hirono, Kaine, King, Warren, Peters, Manchin, Duckworth, Rosen, and Kelly

Opposed: Senators Inhofe, Wicker, Fischer, Cotton, Rounds, Ernst, Tillis, Sullivan, Cramer, Scott, Blackburn, Hawley, and Tuberville

8. MOTION: To include a provision to restrict the

procurement or purchasing by the Secretary of Defense of personal protective firefighting equipment if such equipment contains an intentionally added perfluoroalkyl substance or polyfluoroalkyl substance.

VOTE: Passed by roll call vote 14-12

In favor: Senators Reed, Shaheen, Gillibrand, Blumenthal, Hirono, Kaine, King, Warren, Peters, Manchin, Duckworth, Rosen, Kelly, and Sullivan

Opposed: Senators Inhofe, Wicker, Fischer, Cotton, Rounds, Ernst, Tillis, Cramer, Scott, Blackburn, Hawley, and Tuberville

9. MOTION: To include a provision to ensure consideration under the Defense Environmental Restoration Program by the Department of Defense for State-owned facilities of the National Guard with a proven exposure of hazardous substances and waste.

VOTE: Passed by roll call vote 16-10

In favor: Senators Reed, Shaheen, Gillibrand, Blumenthal, Hirono, Kaine, King, Warren, Peters, Manchin, Duckworth, Rosen, Kelly, Rounds, Sullivan, and Tuberville

Opposed: Senators Inhofe, Wicker, Fischer, Cotton, Ernst, Tillis, Cramer, Scott, Blackburn, and Hawley

10. MOTION: To include a provision that would extend the prohibition on military-to-military cooperation with Russia until certain conditions are met.

VOTE: Passed by roll call vote 19-7

In favor: Senators Shaheen, Gillibrand, Blumenthal, Kaine, Peters, Kelly, Inhofe, Wicker, Fischer, Cotton, Rounds, Ernst, Tillis, Sullivan, Cramer, Scott, Blackburn, Hawley, and Tuberville

Opposed: Senators Reed, Hirono, King, Warren, Manchin, Duckworth, and Rosen

11. MOTION: To include a provision that would make permanent prohibitions relating to missile defense information and systems.

VOTE: Passed by roll call vote 18-8

In favor: Senators Kaine, King, Peters, Manchin, Kelly, Inhofe, Wicker, Fischer, Cotton, Rounds, Ernst, Tillis, Sullivan, Cramer, Scott, Blackburn, Hawley, and Tuberville

Opposed: Senators Reed, Shaheen, Gillibrand, Blumenthal, Hirono, Warren, Duckworth, and Rosen

12. MOTION: To include a provision that would increase in income for purposes of eligibility for basic needs allowance.

VOTE: Passed by roll call vote 17-9

In favor: Senators Reed, Shaheen, Gillibrand, Blumenthal, Hirono, Kaine, King, Warren, Peters, Manchin, Duckworth, Rosen, Kelly, Rounds, Sullivan, Hawley, and Tuberville
Opposed: Senators Inhofe, Wicker, Fischer, Cotton, Ernst, Tillis, Cramer, Scott, and Blackburn

13. MOTION: To include a provision that would prohibit considering the personal views of a member of the Armed Forces with respect to State laws and regulations in determining the duty assignment of the member.

VOTE: Passed by roll call vote 18-8

In favor: Senators Kaine, King, Peters, Manchin, Kelly, Inhofe, Wicker, Fischer, Cotton, Rounds, Ernst, Tillis, Sullivan, Cramer, Scott, Blackburn, Hawley, and Tuberville
Opposed: Senators Reed, Shaheen, Gillibrand, Blumenthal, Hirono, Warren, Duckworth, and Rosen

14. MOTION: To include a provision to require Department of Defense Education Activity schools to notify parents of matters relating to students' mental, emotional, or physical health or well-being.

VOTE: Failed by roll call vote 13-13

In favor: Senators Inhofe, Wicker, Fischer, Cotton, Rounds, Ernst, Tillis, Sullivan, Cramer, Scott, Blackburn, Hawley, and Tuberville
Opposed: Senators Reed, Shaheen, Gillibrand, Blumenthal, Hirono, Kaine, King, Warren, Peters, Manchin, Duckworth, Rosen, and Kelly

15. MOTION: To include an item of special interest that would express the Committee's belief that spending additional time and resources to combat exceptionally rare instances of extremism in the military is an inappropriate use of taxpayer funds and should be discontinued by the Department of Defense immediately.

VOTE: Passed by roll call vote 14-12

In favor: Senators King, Inhofe, Wicker, Fischer, Cotton, Rounds, Ernst, Tillis, Sullivan, Cramer, Scott, Blackburn, Hawley, and Tuberville
Opposed: Senators Reed, Shaheen, Gillibrand, Blumenthal, Hirono, Kaine, Warren, Peters, Manchin, Duckworth, Rosen, and Kelly

16. MOTION: To include a provision that would require the Under Secretary of Defense (Comptroller) to brief the congressional defense committees on spending relating to diversity, equity, and inclusion initiatives of the Department of Defense.

VOTE: Failed by roll call vote 13-13

In favor: Senators Inhofe, Wicker, Fischer, Cotton, Rounds, Ernst, Tillis, Sullivan, Cramer, Scott, Blackburn, Hawley, and Tuberville

Opposed: Senators Reed, Shaheen, Gillibrand, Blumenthal, Hirono, Kaine, King, Warren, Peters, Manchin, Duckworth, Rosen, and Kelly

17. MOTION: To include a provision that would impose a grade cap for military and civilian employees providing diversity, equity, and inclusion training.

VOTE: Failed by roll call vote 13-13

In favor: Senators Inhofe, Wicker, Fischer, Cotton, Rounds, Ernst, Tillis, Sullivan, Cramer, Scott, Blackburn, Hawley, and Tuberville

Opposed: Senators Reed, Shaheen, Gillibrand, Blumenthal, Hirono, Kaine, King, Warren, Peters, Manchin, Duckworth, Rosen, and Kelly

18. MOTION: To include a provision to address matters in connection with special trial counsel.

VOTE: Passed by roll call vote 19-7

In favor: Senators Reed, Shaheen, Gillibrand, Blumenthal, Hirono, Kaine, King, Warren, Peters, Duckworth, Rosen, Kelly, Fischer, Ernst, Tillis, Sullivan, Cramer, Hawley, and Tuberville

Opposed: Senators Manchin, Inhofe, Wicker, Cotton, Rounds, Scott, and Blackburn

19. MOTION: To include a provision that would require a report on the retention implications of cryopreservation.

VOTE: Failed by roll call vote 13-13

In favor: Senators Reed, Shaheen, Gillibrand, Blumenthal, Hirono, Kaine, King, Warren, Peters, Manchin, Duckworth, Rosen, and Kelly

Opposed: Senators Inhofe, Wicker, Fischer, Cotton, Rounds, Ernst, Tillis, Sullivan, Cramer, Scott, Blackburn, Hawley, and Tuberville

20. MOTION: To include a provision that would require the Secretary of the Air Force to divest 63 A-10 Thunderbolts II aircraft in fiscal year 2023.

VOTE: Failed by roll call vote 12-14

In favor: Senators Inhofe, Wicker, Fischer, Cotton, Ernst, Tillis, Sullivan, Cramer, Scott, Blackburn, Hawley, and Tuberville

Opposed: Senators Reed, Shaheen, Gillibrand, Blumenthal, Hirono, Kaine, King, Warren, Peters, Manchin, Duckworth, Rosen, Kelly, and Rounds

21. MOTION: To require a report on the evaluation of the time and resources for U.S. Space Command to reach full operational capability at all six candidate installations.

VOTE: Failed by roll call vote 12-14

In favor: Senators Reed, Shaheen, Blumenthal, Hirono, Kaine, King, Warren, Peters, Rosen, Kelly, Fischer, and Tillis

Opposed: Senators Gillibrand, Manchin, Duckworth, Inhofe, Wicker, Cotton, Rounds, Ernst, Sullivan, Cramer, Scott, Blackburn, Hawley, and Tuberville

22. MOTION: To include a provision that would limit the use of funds for Armed Forces operations and activities in, and aid to, certain member countries of the North Atlantic Treaty Organization.

VOTE: Failed by roll call vote 11-15

In favor: Senators King, Warren, Inhofe, Wicker, Cotton, Sullivan, Cramer, Scott, Blackburn, Hawley, and Tuberville

Opposed: Senators Reed, Shaheen, Gillibrand, Blumenthal, Hirono, Kaine, Peters, Manchin, Duckworth, Rosen, Kelly, Fischer, Rounds, Ernst, and Tillis

23. MOTION: To favorably report to the Senate the James M. Inhofe National Defense Authorization Act for Fiscal Year 2023.

VOTE: Passed by roll call vote 23-3

In favor: Senators Reed, Shaheen, Gillibrand, Blumenthal, Hirono, Kaine, King, Peters, Manchin, Duckworth, Rosen, Kelly, Inhofe, Wicker, Fischer, Rounds, Ernst, Tillis, Sullivan, Cramer, Scott, Blackburn, and Tuberville

Opposed: Senators Warren, Cotton, and Hawley

CONGRESSIONAL BUDGET OFFICE COST ESTIMATE

It was not possible to include the Congressional Budget Office cost estimate on this legislation because it was not available at the time the report was filed. It will be included in material presented during the Senate floor debate on the legislation.

REGULATORY IMPACT

Paragraph 11(b) of rule XXVI of the Standing Rules of the Senate requires that a report on the regulatory impact of the

bill be included in the report on the bill. The committee finds that there is no regulatory impact in the case of the National Defense Authorization Bill for Fiscal Year 2023.

CHANGES IN EXISTING LAW

Pursuant to the provisions of paragraph 12 of rule XXVI of the Standing Rules of the Senate, the changes in existing law made by certain portions of the bill have not been shown in this section of the report because, in the opinion of the committee, it is necessary to dispense with showing such changes in order to expedite the business of the Senate and reduce the expenditure of funds.