

DEPARTMENT OF DEFENSE

# National Guard and Reserve Equipment Report for Fiscal Year 2024



APRIL 2023

**NATIONAL GUARD AND RESERVE EQUIPMENT REPORT FOR  
FISCAL YEAR 2024**

**(NGRER FY 2024)**

**(In accordance with Section 10541, Title 10, United States Code)**

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**Prepared by**

**Department of Defense**

**Office of the Assistant Secretary of Defense for Manpower and Reserve Affairs**

**Deputy Assistant Secretary of Defense**

**(Reserve Integration)**

**COL Travis Delk, Editor**

**Washington, DC 20301-1500**

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FOREWORD

This report describes the current equipping status of the individual Reserve Components (RCs) and their respective plans for improving equipment compatibility essential to meet the National Defense Strategy objectives. Major Force Design changes, a departmental focus on equipment modernization, and a changing European defense environment provide the context for this year's assessment.

As designs of the future force take shape, RCs are working closely with their parent Military Services to gain increased transparency on their future capability and equipment requirements as well as developing a mid to long term plan for RC equipment modernization. Ensuring interoperability, deployability, and sustainability of mission critical capabilities across all warfighting platforms and addressing gaps in the ability to conduct large scale combat operations remain central challenges for the RCs.

Across the board, RCs are balancing the cost to maintain, operate, and recapitalize legacy equipment versus divestment of that equipment that has no modernization or fielding plan in place. Equipment transfers, including equipment redirected to Ukraine as part of the Presidential Drawdown Authority, have the potential to complicate some fielding plans and create additional equipping gaps.

Chapter one outlines current challenges and reviews the RC equipping process. Chapters two through six provide detailed narratives and data for each RC for Fiscal Year (FY) 2024 through FY 2026. The narratives describe the current equipping status of each RC and their future procurement plans.

The RCs are grateful for stable and predictable congressional funding for the investment needed to address critical shortfalls and close modernization gaps. This investment reflects the importance of the RCs to the success of the Total Force, today and into the future.

A handwritten signature in black ink, appearing to read "Gilbert R. Cisneros, Jr.", written in a cursive style.

Gilbert R. Cisneros, Jr.

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# Chapter 1 Overview

## I. Introduction

The National Guard and Reserve Equipment Report (NGRER) is required by section 10541 of Title 10 United States Code (U.S.C.). This requirement had lapsed but was reinstated in section 1059 of the National Defense Authorization Act for Fiscal Year 2023. The NGRER identifies major items of equipment that should be in the inventory of the Selected Reserve of the Ready Reserve of each Reserve Component (RC) of the armed forces. This report also outlines how that equipment will be acquired and disposed of by the RCs for the current budget year and the two succeeding years. Data on equipment included in the report consists of high-value, mission-essential equipment requirements, critical equipment shortages, Military Service procurements, and supplemental funding for the RC.

A changing European defense environment, major Force Design changes, and a continued departmental focus on equipment modernization provide the context for this year's assessment of the National Guard and Reserve's equipment readiness. While each of the seven reserve components highlight specific equipment challenges related to their mission requirements, two consistent themes stand out across the individual component narratives: the requirement for interoperability between Active Component (AC) and RC equipment, and an appeal for consistent and predictable funding and budget certainty.

**Interoperability:** Ensuring the interoperability, deployability, and sustainability of mission critical capabilities across all warfighting platforms and addressing gaps in the ability to conduct Large scale combat operations in a multi-domain operating environment remains a central challenge for the RCs. Equipment modernization and improved readiness are the key factors that allow the RCs to keep pace with threats and preserve operational agility. As part of the Joint Force, rapidly generating and deploying capable units requires the most modern equipment available to ensure the same level of survivability, lethality, mobility, and network connectivity.

With the rapidly changing global environment, the acquisition process must provide the flexibility to leverage technological advancements. An equipping strategy that balances investment between more technologically advanced weapon systems and strategic enablers will serve to decrease operational risk and reduce costs to maintain and sustain legacy equipment. RCs must be ready now as demand for RC support to planned rotations and short notice activations is expected to remain extremely high while the RC undergoes a historic military transformation well into the future.

**Transparency:** Major force structure changes are currently underway within the DoD. These changes are the initial steps of resizing, reshaping, and re-equipping the force for

success in the future operating environment. As designs of the future force take shape, RCs are working closely with their parent Military Services to gain increased transparency on their future capability and equipment requirements as well as the mid-to long-term plan for RC equipment modernization. Across the board, RCs are balancing the cost to maintain, operate, and recapitalize legacy equipment against divesting of that equipment with no modernization or fielding plan in place. Equipment transfers, including those in support of Ukraine, may complicate these plans and create additional equipping gaps.

**Budget Certainty:** Consistent and predictable funding from Congress is vital to DoD's readiness and allows Military Services to optimize resources. Continuing Resolutions (CRs) complicate execution management and constrain the ability to make programmatic changes. Generally, CRs have a negative impact on equipment readiness by extending execution timelines, delaying new starts, increasing costs, and potentially limiting National Guard and Reserve Equipment Account (NGREA) execution.

## II. Processes for Equipping Reserve Components:

The current method for equipping and modernizing the RCs relies on budgeted procurement appropriations, NGREA and other congressionally directed appropriations, and AC to RC equipment redistribution (cascading).

**Procurement Appropriations.** Each parent Military Service submits requests for their respective RC procurement appropriations. The procurement request (P-1) reflects the Department's combined request for the AC and RC. The P-1R is a manually updated subset of the P-1 budget exhibit and contains the parent Military Services' procurement budget request for the RCs.<sup>1</sup>

**National Guard and Reserve Equipment Account (NGREA).** Originating in 1981, NGREA is used to supplement the Military Services' budget request to provide investments in RC equipment that do not meet the Military Services' respective prioritization thresholds. RCs use NGREA for improving equipment on hand (EOH) status, mitigating key readiness shortfalls, and addressing compatibility issues. In the Department of Defense Appropriations Act, 2023, Congress provided \$1 billion for the NGREA.

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<sup>1</sup> DoDD 1200.17, *Managing the Reserve Components as an Operational Force*, October 29, 2008, and DoDI 1225.06, *Equipping the Reserve Forces*, Incorporating Change 1, November 30, 2017, require the Secretaries of the Military Departments to manage their respective RCs as an operational force such that the RCs provide operational capabilities while maintaining strategic depth to meet U.S. military requirements across the full spectrum of conflict. To fulfill assigned missions, the RCs of each Military Department shall be consistently and predictably equipped. Further, RC resourcing plans shall ensure visibility to track resources from formulation, appropriation, and allocation through execution.



**Directed Appropriations.** In previous years, Congress specified funding for National Guard and Reserve programs. These directed appropriations historically include funding for major platforms. This level of congressional support results in a degree of concurrent fielding that would not otherwise be achieved. Directed appropriations enable the RCs to fill critical shortages, modernize equipment, and improve readiness. They also provide increased transparency and positive oversight management. In the FY 2023 Defense Appropriations Act, Congress appropriated a total of \$2.2 billion in directed appropriations to the RCs.<sup>2</sup>

**Redistribution (Cascading).**

Historically, the RC allocation of defense appropriations for equipment procurement, including congressional adds, comprises less than 10 percent of the total defense allocation (see Figure 1-1).<sup>3</sup> Rather than new procurement, the Military Services rely on a redistribution model commonly referred to as “cascading”—redistributing legacy AC items to RC units as new equipment is delivered to the AC.

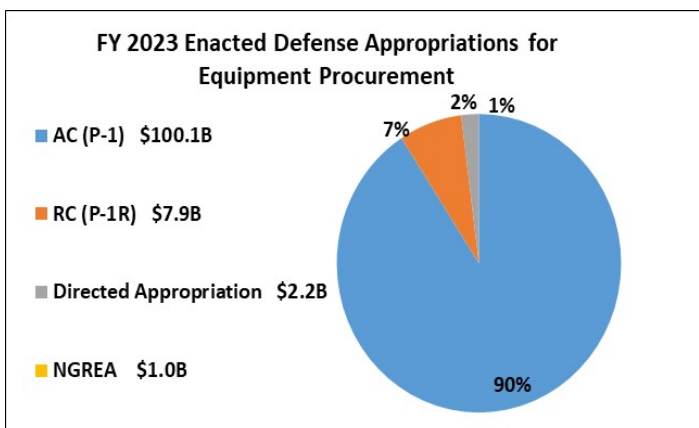


Figure 1-1. FY 2023 Enacted Defense Appropriations for Equipment Procurement

### III. Equipment Status and Procurement Funding

The Tables and Charts in this section present a broad overview of equipment reported in the NGRER, major item shortages in dollar amounts, and the recent tracking through the current budget year of procurement funding for the RC. These introductory tables provide summarized, historical data and do not display the comprehensive dollar requirement that is needed to fully fund RC capabilities. Detail on potential costs, such as modernization of existing systems is contained, where appropriate, in the following chapters of each respective RC.

RC inventories include thousands of different types of equipment. The FY 2024 NGRER highlights 872 major equipment types. This report presents the results of analysis of RC inventories based primarily on the dollar value of the equipment, which allows the aggregation, comparison, and summary of diverse types of equipment. The

<sup>2</sup> The directed appropriation figure of \$2.2 billion reflects approximately \$1.8 billion for 16 additional C-130J aircraft and 5 additional KC-130J aircraft for the ANG; \$350 million for 12 MQ-1C Gray Eagle UAVs for the ARNG; and, an additional \$120 million for ARNG HMMWV modernization.

<sup>3</sup> P-1 & P-1R values do not include Ammunition appropriations. P-1 values include only appropriations displayed in P-1R: Army: Aircraft, Missile, W&TCV, and Other Procurement, Navy & Air Force: Aircraft, Other Procurement, and Marine Corps. The NGREA figure of \$1 billion is in addition to the \$2.2 billion of directed appropriations.

procurement costs are from the Military Services' official data and are either the latest procurement cost adjusted for inflation or the current replacement cost.

Table 1-1 shows the number of types of equipment included in previous NGRERs to Congress. These numbers are provided for perspective and comparison of previous reports and do not represent the entire inventory of RC major items.

*Table 1-1. Items of Equipment Reported in Recent NGRERs*

Reserve Component	FY 2019 NGRER	FY 2020 NGRER	FY 2021 NGRER (Not Reported) <sup>4</sup>	FY 2022 NGRER	FY 2023 NGRER	FY 2024 NGRER
ARNG	309	309		274	290	254
AR	236	167		176	171	207
MCR	165	157		190	196	196
NR	33	31		35	34	35
ANG	26	24		16	25	25
AFR	14	14		23	16	16
CGR	71	72		83	137	139
<b>Total</b>	<b>854</b>	<b>774</b>		<b>797</b>	<b>869</b>	<b>872</b>

## A. RC Equipment Shortfalls

Table 1-2 shows the dollar value of the current total major equipment requirements and inventories for each RC. The information in this table identifies requirements for new procurement for each RC. However, it does not show capabilities, shortfalls, or compatibility mismatches with the AC that are caused by modernization requirements.

The ARNG and AR equipment shortage costs depicted in Table 1-2 show the cost based on requirements and on-hand inventories without recognition of authorized substitutes. Table 1-2 indicates a \$2.6 billion total shortage for the ARNG and \$1.1 billion for the AR. More information on the Army's equipping strategy and their use of authorized substitutions can be found in Chapter 2, Section I of this report.

The Marine Corps Reserve (MCR) reflects a \$1.4 billion shortage of its major items. Overall, MCR has reduced its shortfall from 22 percent last year to 15 percent this report. More information on the Marine Corps equipping strategy and the MCR's use of a training allowance can be found in Chapter 3 of this report.

The Navy Reserve (NR) reports a shortage of equipment valued at approximately \$4.5 billion. While the dollar value of shortfalls remains the same as last year, the NR reported a significant reduction in the value of requirements and on-hand equipment resulting in an increase in the overall shortfall percentage (from 44.8 percent to

<sup>4</sup> DoD did not submit the FY 2021 NGRER

61.8 percent). More information on the Navy's equipping status can be found in Chapter 4 of this report.

The Air Force Reserve shortage cost of major equipment is approximately \$1.3 billion. The Air National Guard reported shortages are approximately \$1.1 billion. More information on the Air Force's equipping strategy can be found in Chapter 5 of this report.

*Table 1-2. Beginning FY 2023 Reserve Component Equipment Shortages*

Reserve Component	Requirements (\$M)	On-hand (\$M)	Shortage (\$M)	Shortage (% of Reqd. \$s)
ARNG	75,740.5	73,161.0	2,579.5	3.4
AR	22,440.8	21,317.1	1,123.7	5.0
MCR	9,780.9	8,336.5	1,444.4	14.8
NR	7,268.6	2,773.9	4,494.7	61.8
ANG	6,677.0	5,527.0	1,150.0	17.0
AFR	22,820.7	21,487.6	1,333.1	5.8
CGR	193.4	181.9	11.5	5.9
<b>Total</b>	<b>144,921.9</b>	<b>132,785</b>	<b>12,136.9</b>	<b>8.4</b>

Note: Requirements, on-hand, and shortage entries are total equipment value, excluding substitutes per Congressional Guidance.

## B. RC Equipment Procurement Funding

The RC procurement funding levels for the period FY 2015–FY 2024 are illustrated in the charts below.<sup>5</sup> The RC portion of the base Military Service procurement funding is provided in a budget exhibit in the annual defense budget request known as the Service Procurement Programs–Reserve Components (P-1R). The P-1R values for past fiscal years are updated as each new budget request is released. The P-1R funding for a given fiscal year appears in three successive budget requests, the original budget request followed by P-1R updates in two successive budget requests. The P-1R updates for a fiscal year reflect changes to the original request that may increase or decrease the procurement funding intended for the RCs. Those changes include the actual appropriation enacted, including supplemental funding and reprogramming actions.

Chart 1-1 displays the total RC P-1R funding over the past decade. Figures from FY 2015–FY 2022 show the actual amounts. The FY 2023 figure is the enacted amount, and the FY 2024 figure is the requested amount. Of note, the Army National Guard dominates the amount of Service appropriated funding compared to the other RCs.

<sup>5</sup> The Comptroller's PB 2024 files provide the data for the most recent FYs 2022 through 2024 – Actual, Enacted and Request, respectively. The previous FYs (2015 thru 2021) of Actual data have their sources as PBs 2017 through 2023.

Chart 1-1. Reserve Component Procurement Funding (Service Appropriation)

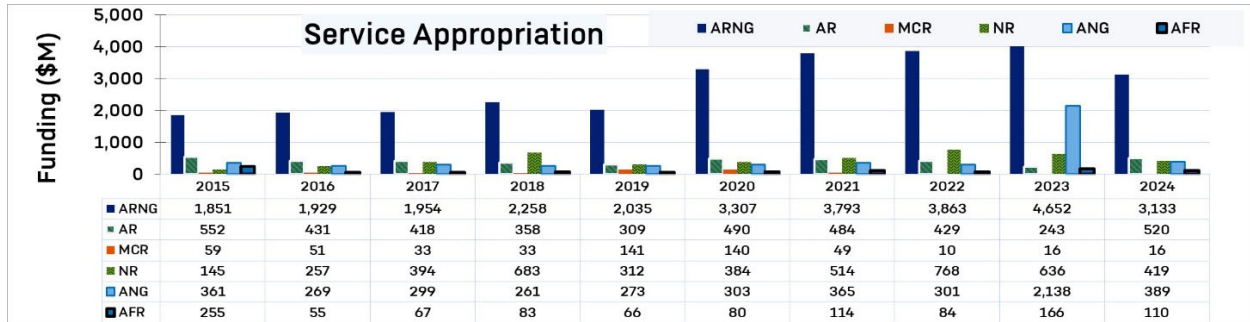


Chart 1-2 reflects the total NGRER funding over the past decade. The Army National Guard and the Air National Guard have historically received the bulk of the NGRER funding when appropriated.

Chart 1-2. Reserve Component Procurement Funding (NGREA Funding)<sup>6</sup>

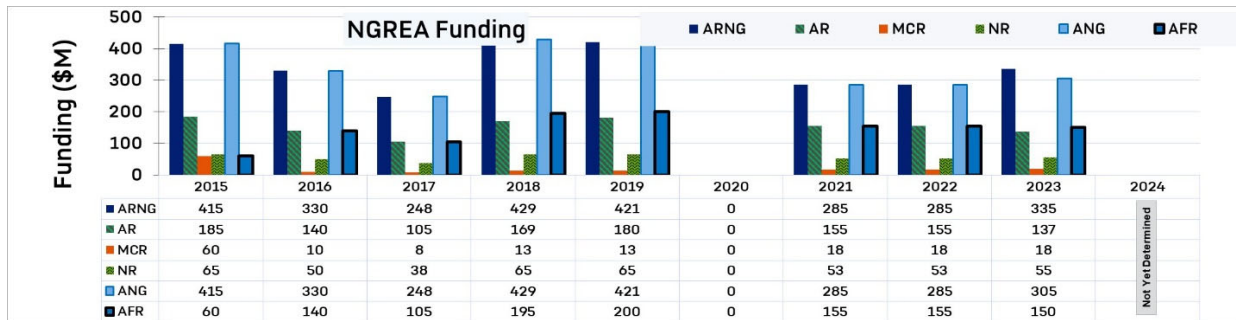


Chart 1-3 illustrates historical trends of total RC procurement funding. Significant increases in procurement funding for the Army National Guard from FY 2020 to FY 2023 can be attributed to appropriations for the purchase of over 240 UH-60 Blackhawk and AH-64 Apache helicopters and for Abrams tank upgrades.

<sup>6</sup> In FY 2020, \$1.3 billion of NGRER was reprogrammed by DoD.

Chart 1-3. Reserve Component Procurement Funding (Total)<sup>7</sup>

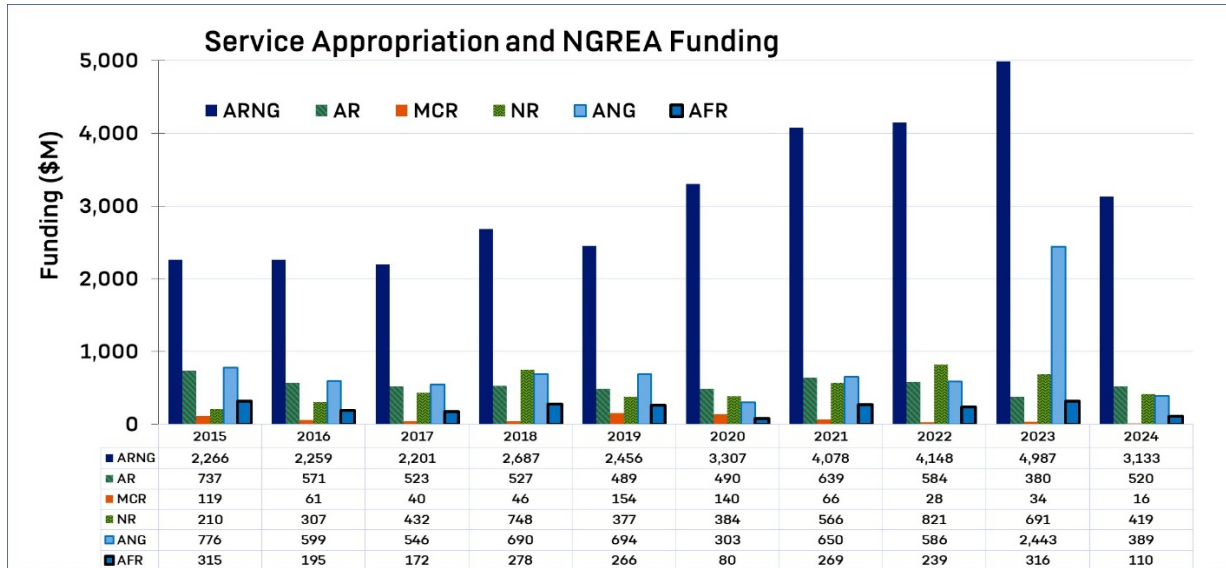


Chart 1-4 shows the trend in the percentage of procurement dollars the RCs receive vis-à-vis the ACs.<sup>8</sup> Over the 10-year reported period, RC funding constitutes approximately 4.4 percent of the total selected appropriations. Army RC procurement funding for selected appropriations is consistently in the 10 to 20 percent range in total with the ARNG ranging from 9 to 19 percent and the AR consistently receiving between 1 to 3 percent (Chart 1-5). Navy Reserve procurement funding for selected appropriations is consistently in the 1 to 3 percent range over the period while the Marine Corps Reserve receives between 0.1 and 0.3 percent of total procurement dollars (Charts 1-6 and 1-7). The percentage of ANG procurement funding for selected appropriations has remained steady between 0.2 and 0.4 percent except for a sharp increase in 2023. The AFR percentage has fluctuated from a high of 0.8 percent to a low of 0.1 percent. (Chart 1-8).

<sup>7</sup> The 2024 figures in this chart do not include any potential NGREA dollars as that has not yet been determined.

<sup>8</sup> To compare Active and Reserve Component funding, it is necessary to identify selected appropriations with significant dollar value in the RC, namely: Army Aircraft, Missile, Weapons & Tracked Combat Vehicles and Other Procurement; Navy & Air Force Aircraft and Other Procurement; and Marine Corps Procurement. These selected appropriations constitute approximately 70 percent of the total procurement dollars.

Chart 1-4. Total Active and Reserve Component Procurement Funding

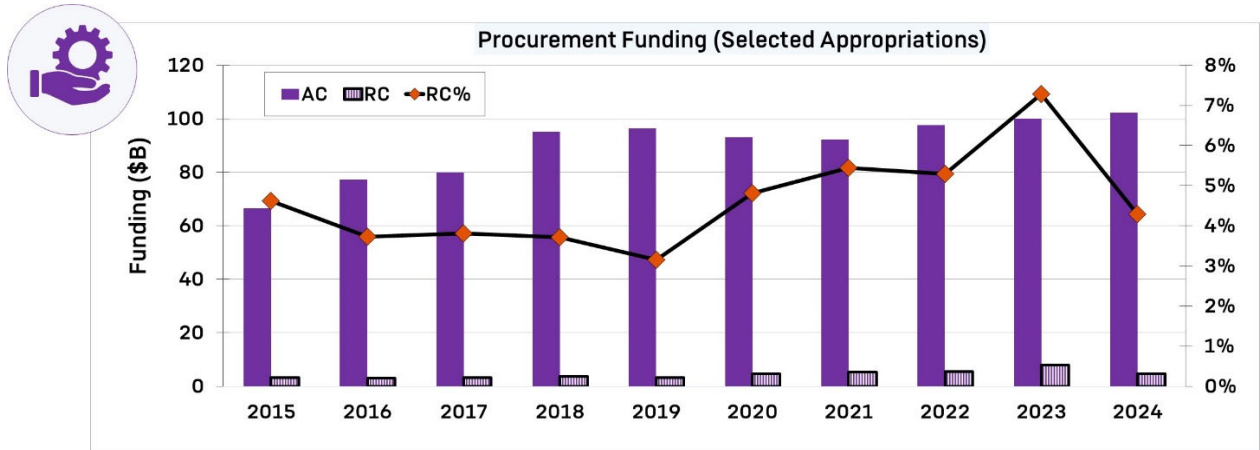


Chart 1-5. Procurement Funding – Department of the Army

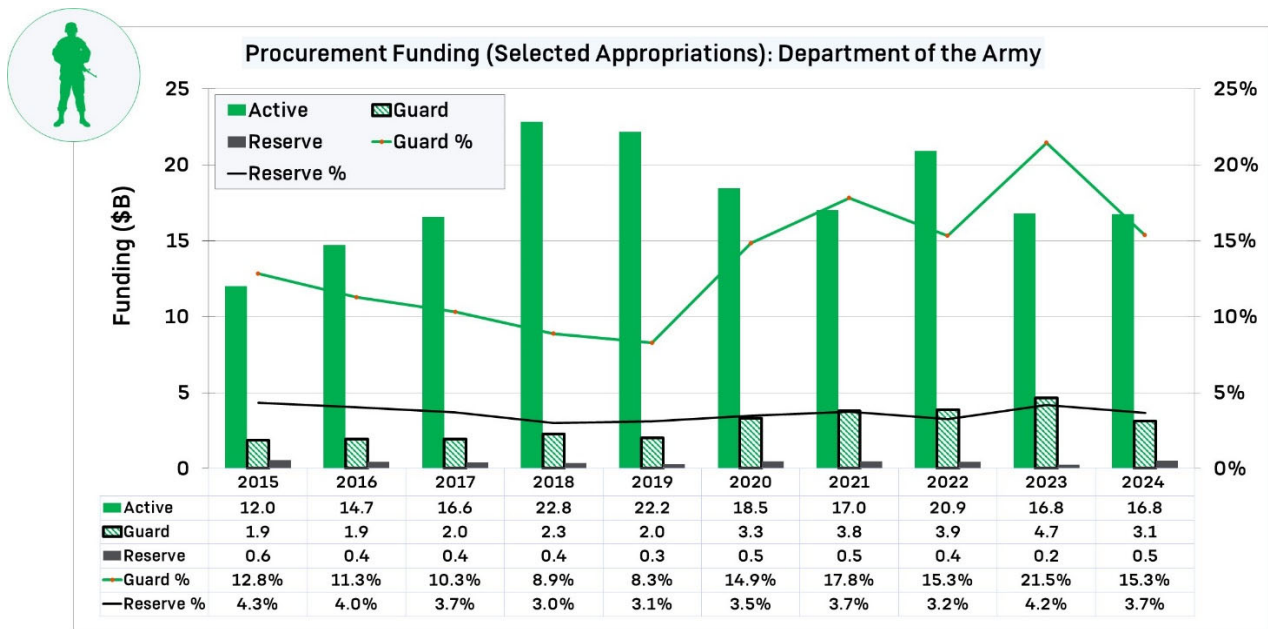


Chart 1-6. Procurement Funding – Navy

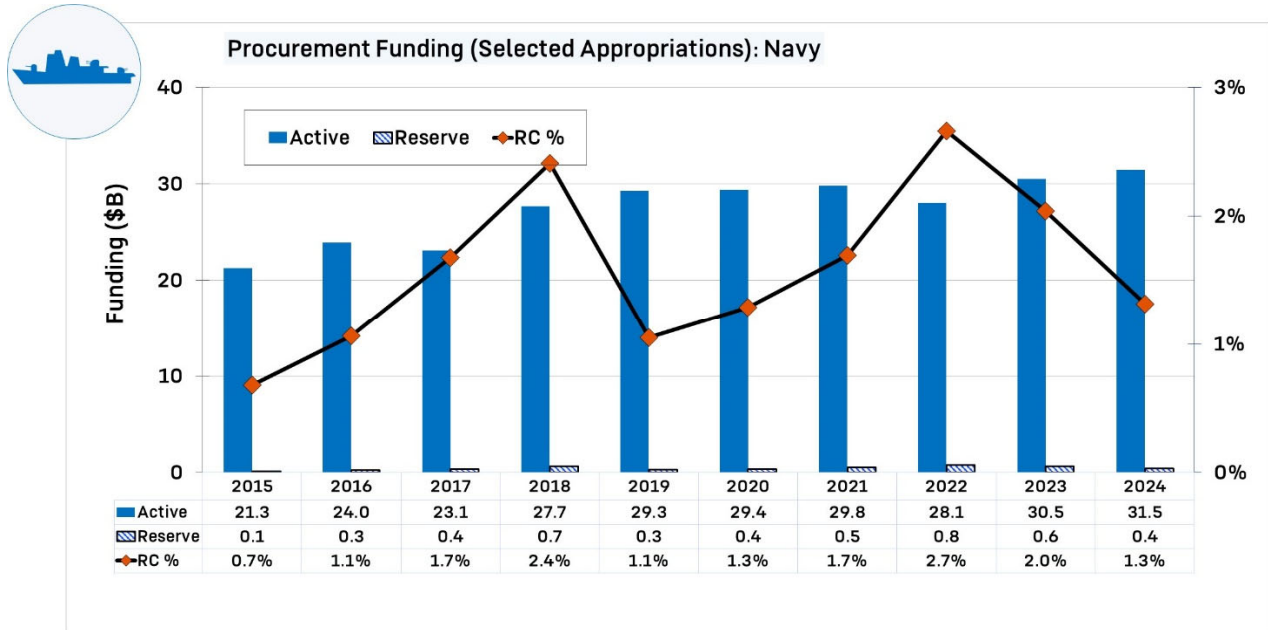


Chart 1-7. Procurement Funding – Marine Corps

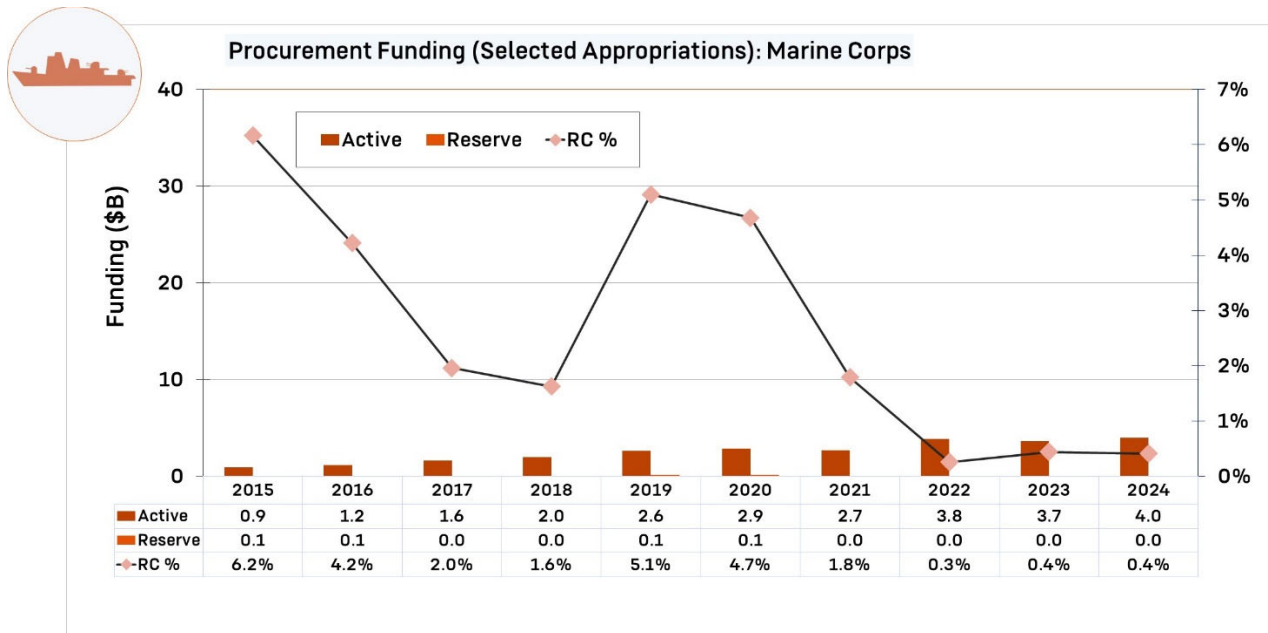
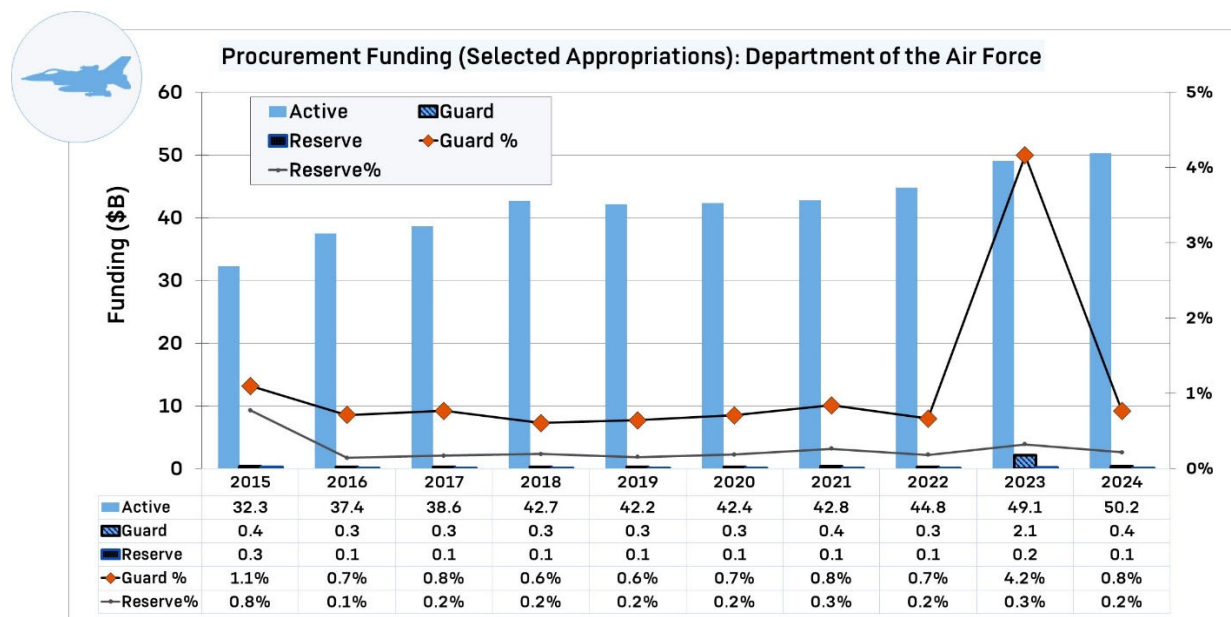


Chart 1-8. Procurement Funding – Department of the Air Force



## IV. Reserve Component Equipping Challenges

This section briefly summarizes the principal equipping challenges of each RC. Each component’s individual chapters address these issues in more detail.

### A. Army National Guard (ARNG)

The ARNG continues to make significant investments in modernization in accordance with the Regionally Aligned Readiness and Modernization Model (ReARMM) and Army of 2030. The primary equipment items of concern are Mission Command systems that ensure ARNG interoperability with the Army and the Joint Force. The ARNG maintains visibility of critical weapon systems and aviation platforms using the Army’s joint assessment of parity (Appendix D).

The following are ARNG’s top focus areas:

- Continuing implementation of (ReARMM)
- Ensuring ARNG equipment remains interoperable, sustainable, and deployable in accordance with unit ReARMM Cycles and Army Modernization Priority List (AMPL)
- Completing Black Hawk Helicopter Modernization by FY 2034
- Posturing ARNG to ensure Intel/Mission Command Systems are interoperable with sensor to shooter systems in multi-domain operations (MDO)
- Promoting modernization in Soldier Systems to optimize Soldier readiness.



Chapter 2, Section II of this report provides a more detailed discussion of these focus areas.

## **B. Army Reserve (AR)**

The Army equipment modernization strategy concentrates on equipping priorities of units identified as early entry and theater opening forces most critical to setting the conditions for and sustaining combat operations. Although the AR continues to advocate for consistent and predictable equipping, it is unable to fill all critical requirements. Slow production rates and reset issues have resulted in shortages. Replacement or recapitalization of aging critical equipment is required to preserve comparative advantage and ensure the development of future capabilities.

The following are top AR focus areas:

- **Resourcing:** Optimize processes and prioritization to deliver modern enabler capabilities that support MDO, including risk-informed divestiture of legacy equipment.
- **Readiness:** Invest in responsive capabilities to enhance equipping posture for day-to-day competition, Large scale combat operations (LSCO), Homeland Defense (HD), and Defense Support of Civil Authorities (DSCA).
- **Modernizing:** Advocate for the development of future enabler capabilities to accelerate interoperability and holistically identify/forecast resource gaps.

Additional information about the AR focus areas can be found in Chapter 2, Section III of this report.

## **C. Marine Corps Reserve (MCR)**

Major force structure changes are currently underway within the Marine Corps. A focus on divesting costly legacy equipment then reinvesting in equipment and technology modernization for the future fight will continue to help the MCR remain a force trained and equipped to augment and reinforce the Total Force.

The MCR's top focus areas include the following:

- **Littoral Maneuver Capability.** Based on Force Design 2030 guidance, MCR began to develop a small craft littoral and coastal maneuver capability.
- **Major Ground Equipment Modernization (Joint Light Tactical Vehicle (JLTV) and Amphibious Combat Vehicle (ACV)).** The Marine Corps is acquiring major ground equipment modernizations that will provide its RC with the latest generation of warfighting capabilities.
- **Aviation and Ground Equipment Maintenance.** Delayed fielding increases equipment compatibility challenges and results in requirements to concurrently maintain both new and legacy equipment, which continues to be increasingly more costly while negatively affecting overall readiness.

A more detailed discussion of these initiatives can be found in Chapter 3, Section II of this report.

#### **D. Navy Reserve (NR)**

As part of the Navy Total Force, Reserve sailors provide operational capabilities, strategic depth, and the capacity to surge quickly. Aircraft recapitalization remains the NR's number one equipment priority. The NR continues to strive for AC and RC equipment compatibility to maintain strategic depth. Achieving equipment compatibility with the AC is critical to ensure that the RC can train to the same standards as, and seamlessly operate with, its AC counterparts.

To ensure that the NR can support AC requirements involves dedicated funding for future investments in NR hardware.

The following remain the top NR focus areas:

- Recapitalizing the aging C/KC-130T fleet with modern KC-130J aircraft
- Investing in Expeditionary Logistics Vertical Launch System Reload to support Distributed Maritime Operations
- Ensuring long term adversary capability to provide the fleet with relevant, necessary tactics training.

Chapter 4, Section II of this report provides a more detailed discussion of these challenges.

#### **E. Air National Guard (ANG)**

A modernized and recapitalized ANG with equipment and warfighting platforms fielded concurrently with the AC is the most effective path to improving availability while reducing operating costs. Readiness remains a top concern, but the ANG faces significant challenges to increasing aircraft availability because it operates and maintains aging aircraft.

ANG equipment focus areas include the following:

- **Combat Aircraft Modernization:** Enhance weapons system lethality and survivability through adaptable electronic warfare suites and concurrent simulators with modern threat replication.
- **Mobility Fleet Modernization:** Updated avionics/instrumentation and integrated defensive systems to improve interoperability with joint and coalition partners against advanced adversaries.

Chapter 5, Section II of this report provides additional information about ANG equipment challenges.

## **F. Air Force Reserve (AFR)**

Aging aircraft and infrastructure continue to present challenges to the AFR without necessary upgrades and replacements. The AFR is focused on solidifying readiness gains while continuing prioritized, cost-effective modernization. However, without necessary upgrades and replacements, fewer AFR aircraft are available. The AFR's ability to deter, respond to, and eliminate threats relies on the continuous development of and investment in advanced air, space, and cyber capabilities.

The following are the top equipment focus areas for the AFR:

- Recapitalize weapons platforms and new equipment proportionally to ensure lethality and interoperability in the Total Force.
- Modernize aircraft and equipment to increase readiness, lethality, interoperability, agility, and survivability to support the Total Force.
- Invest in vehicles and support equipment to enhance readiness and accommodate recapitalization and modernization efforts.
- Invest in training simulators as aircraft modernize and force structure changes to best produce mission ready aircrew.

Chapter 5, Section II of this report provides a more detailed discussion of these challenges.

## **G. Coast Guard Reserve (CGR)**

The CGR continues to be an invaluable force, ready to perform the missions critical to maritime homeland security, national defense, and domestic disaster operations. Predictable and steady funding is critical to sustain CGR operational integration, which is essential to responding to various contingencies and fulfilling the security demands of the nation. As the CGR pursues the replacement of its aging boat platforms, weapons, and other equipment, the force will require additional training to become proficient and maintain operational readiness.

This year, the following remain the top CGR equipping challenges:

- Recapitalization of Personal Protective Equipment (PPE)
- Increasing average age of the boat fleet
- Equipment and PPE for the CGR Police Department Program.

Chapter 6, Section II of this report contains more information about the CGR equipping challenges.

## **V. Additional Report Elements**

The FY 2008 NDAA directed new equipment reporting requirements for the National Guard's capability to perform its federal responsibilities in response to an emergency or

major disaster. Appendix A

Report Requirements, Terminology, and Definitions highlights this guidance in its entirety and the National Guard Bureau responds to these requirements in Appendix B National Guard Equipment Reporting Requirements.

The FY 2019 NDAA amended section 10541(b) of title 10 U.S.C. by adding the requirement for a joint assessment by the Chief of Staff of the Army (CSA) and the Chief of the National Guard Bureau (CNGB) on the efforts of the Army to achieve parity among the AC, the Army Reserve, and the Army National Guard with respect to equipment and associated capabilities. The assessment includes a comparison of the inventory of high priority items of equipment consisting of: AH-64 Attack Helicopters, UH-60 Black Hawk Utility Helicopters, Abrams Main Battle Tanks, Bradley Infantry Fighting Vehicles, Stryker Combat Vehicles, and any other items of equipment identified as high priority by the CSA or the CNGB. The three Army components agreed to include two additional systems for modernization assessment. The first is the Joint Battle Command-Platform (JBC-P) because it affects interoperability across the components. The second is the Load Handling System (LHS) Compatible Water Tank Rack (HIPPO) with 2,000-Gallon capacity because it is a critical materiel solution for Large scale combat operations gap #4 and a crucial Critical Dual Use item.

## Chapter 2 Equipping the Total Army

*“The Army must find a way to field the cutting-edge formations we need to conduct multi-domain operations while facing increased fiscal pressures.”*

*—Secretary of the Army Christine Wormuth, February 2022, Message to the Force*

### I. Army Overview

#### A. Army Planning

The Army remains committed to supporting National and Defense strategic guidance, taking care of its people, and fulfilling operational requirements at home and abroad while transforming to meet future threats. The Army continues to advance its foundational priorities of People, Readiness, and Modernization, and remains committed to maintaining the momentum of its six modernization portfolios.<sup>1</sup>

Today and in the years ahead, the Army will become more data-centric and field cutting-edge formations to enable multi-domain operations (MDO) while remaining on a sustainable strategic path. Efforts that foster innovation and enable experimentation, such as Project Convergence 2022—an all-service experiment focused on capabilities that protect against air and missile threats and defeat anti-access defenses—will be key to this effort.

A principal way the Army supports higher level guidance is via its unique contributions to integrated deterrence, campaigning, and building enduring advantages. The Army’s six modernization priorities enable joint MDO now and in the future, providing combat-credible forces to deter our adversaries. Army warfighting exercises, rotational deployments, and forward posture support the joint force. In addition to fostering a “People First” approach, the Army sustains enduring advantages by building climate resilience and expanding and modernizing the Army industrial base.

#### B. The Army Equipping Guidance

The 2019 Army Modernization Strategy<sup>2</sup> describes how the Total Army (Regular Army, National Guard, Army Reserve, and Army Civilians) will transform into a multi-domain force by 2035, meet its enduring responsibility as part of the Joint Force to provide for the defense of the United States, and retain its position as the globally dominant land

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<sup>1</sup> The Secretary of the Army’s Verbal Posture Statement to the Senate Armed Services Committee (05MAY2022)

[https://www.army.mil/article/256480/secretary\\_of\\_the\\_army\\_christine\\_wormuths\\_verbal\\_posture\\_statement\\_to\\_the\\_senate\\_armed\\_services\\_committee\\_may\\_5\\_2022](https://www.army.mil/article/256480/secretary_of_the_army_christine_wormuths_verbal_posture_statement_to_the_senate_armed_services_committee_may_5_2022).

<sup>2</sup> The 2019 Army Modernization Strategy can be accessed at

[https://www.army.mil/e2/downloads/rv7/2019\\_army\\_modernization\\_strategy\\_final.pdf](https://www.army.mil/e2/downloads/rv7/2019_army_modernization_strategy_final.pdf).

power. The Army's modernization approach will continue to test and refine operating concepts, draw on emerging technologies, and anticipate changes in the operational environment.

Modernizing the Army focuses on strategic readiness and force projection. These efforts prioritize investments to fill the most critical gaps for large scale combat operations (LSCO), set conditions for the MDO-capable force, and develop solutions to the Army's modernization priorities.

Together, unit readiness (manning, organization, training, equipment, and leadership) and force projection (global posture, setting the theater, mobilization, deployment, employment, sustainment, and redeployment) define strategic readiness and remain some of the Army's top priorities. The Army will not sacrifice its near-term capabilities.

Strategic readiness requires an agile Army postured for and capable of global force projection. The Army must be able to compete with, deter, and defeat threats from near peers to non-State actors in both conventional and asymmetric warfare. The Army Modernization Strategy states that the Army is to sustain a sufficient level of tactical readiness, build strategic readiness, and deliver the six modernization priorities and other modernization efforts. The Unit Lifecycles provide a predictable and sustainable schedule for the modernization and equipping enterprise by determining how many units are available to be modernized and when. Units progress through three phases during each Unit Lifecycle. Regular Army unit phases will be eight months in duration. Army National Guard and Army Reserve unit phases will include a 12-month modernization phase, a 36-month training phase, and a 12-month mission window (which includes mobilization, post-mobilization training, a standard 9-month deployment, and demobilization).

While modernizing the force for the future, the Regionally Aligned Readiness and Modernization Model (ReARMM) framework creates an Army that is regionally and functionally capable of supporting the National Defense Strategy (NDS). ReARMM allows the Army to align the operating force across all components against existing and planned mission sets and optimize the Total Army by improving predictability, enhancing organizational expertise, and modernizing personnel and equipment systems. It enables the Army to transform into an MDO capable force while providing a predictable supply of ready units for the Army and the Joint Force.

## **C. The Army's plan to fill Mobilization shortages in the Reserve Components**

### **1. Equipping Units for Their Missions**

The Army is committed to equipping and modernizing the Total Force. ReARMM is designed to optimize the Army's ability to modernize and train the Total Army to meet Secretary of Defense-ordered missions. With predictable Modernization, Training, and

Mission Unit Lifecycles, ReARMM provides the Army a framework that enables long-term planning to meet resourcing requirements for unit missions.

## **2. Increasing Readiness by Redistributing Equipment**

The Army fills shortages within the Reserve Component (RC) as part of the Total Force according to Army priorities. ReARMM provides a synchronization framework to optimize the effect of modernizing the Army and redistributing equipment to the Total Army to optimize readiness based on the NDS.

### **a. Mission Focused Equipment**

The Army operationalizes the RC by leveraging the capabilities of the Army National Guard (ARNG) and the U.S. Army Reserve (USAR) forces to support early- and mid-deploying forces identified in War Plans. ReARMM provides a framework to assess unit readiness based on directed modernization levels required to perform regionally aligned geographical combatant command missions.

### **b. Readiness Redistribution**

A deliberate equipment redistribution review process ensures the right equipment is at the right place. The Army is committed to meeting the requirements in Department of Defense Instruction 1225.06, "Equipping the Reserve Forces," to pay back ARNG and USAR equipment transferred from the Reserve Forces with fully capable equipment.

### **c. Efficiency**

ReARMM also allows the Army to program funding by phase to achieve desired readiness outcomes. Current projections indicate ReARMM will maintain similar proficiency in Mission Essential Tasks as past models but will also provide dedicated time and resources to modernize the Total Army. The Army also seeks to streamline the sustainment process to ensure the most efficient utilization of sustainment resources. As such, the Army must divest older systems and excess equipment on-hand while ensuring equipment distribution and redistribution is accomplished down to the lowest levels.

## **D. Initiatives Affecting RC Equipment**

The Army's support of equipment transparency initiatives continues to progress and serves as a model for other services. A well-equipped Reserve Component is essential to the Army and National Security. Achieving full transparency (the ability to ensure the RC is receiving all equipment from allocated equipment procurement appropriations) will improve our processes that oversee the funding through a procurement process that ensures our Reserve Components receive the most modern equipment available. The specific transparency initiatives include developing a fully automated Equipment Transparency Report (ETR) that will inform and allow the Chief, National Guard Bureau and the Chief, Army Reserve to fully certify what equipment they have and have not received from each investment appropriation. The Army ETR includes participation of

the ARNG, USAR, and key members of the Army Staff/Secretariat to improve cloud-based information systems:

- Army Equipping Enterprise System (AE2S). Since 2019, this tool has been continuously improved to serve as the Army's authoritative system to synchronize equipment planning and programming requirements, including requirement-based equipment allocations to the ARNG and USAR. AE2S supports development of the Army investment budget request via forecasted deliveries to each component. Today, AE2S has integrated the ARNG and USAR participation and partially automated the ETR process. Additional funding and contract information related to the procurement process is under review to support future improvements that will integrate execution and delivery data to allow full automation of the ETR process.
- The Army Data Board formally approved the ETR Line of Effort (LoE) in October 2021 to identify related funding and contract information necessary for full traceability and transparency. This is a data analytics effort being executed under the Army "Vantage" program. The Army has already benefited from Vantage providing supplemental RC equipment procurement/fielding information. Vantage was used by the ARNG and USAR to review the July 2022 ETR submitted to OSD in August 2022 to provide "partial" certification. This LoE was completed in early FY 2023 and will be followed by an integration effort with AE2S.

The Army anticipates that challenges will be identified (e.g., full implementation of DoD Item Unique Identification), but expects these improvements will ultimately provide the Chief, National Guard Bureau the capability to "certify" receipt and non-receipt of expected items in accordance with Title 10, Section 10541.

### **E. Army Plan to Achieve Compatibility between the Army's Active Component (AC) and Reserve Component (RC)**

The Army reviews compatibility between the AC and the RC based on mission alignment. The ReARMM model includes ARNG and USAR units in its regional alignment and prioritization. This framework requires the Army to focus on Total Force interoperability. Improving the readiness of RC units is the key to achieving that interoperability and the required operational depth.

### **F. Army Component Equipment Modernization**

The United States' competitive advantage is being challenged in every domain of warfare (land, maritime, air, space, and cyberspace), and those challenges are growing in scale and complexity. To meet these challenges, the Army is undergoing its most significant modernization effort in more than 40 years. The Army's inventory contains weapon systems and equipment at various lifecycle stages. Soldiers depend on a mix of newly fielded systems and proven legacy or "enduring" systems to accomplish their missions. This mix of newly procured and enduring products ensures good stewardship of taxpayer dollars, enabling the Army to concentrate development and acquisition dollars where the investment in advanced technology can provide the greatest benefit.



## II. Army National Guard Overview

*“It is critical we remain interoperable throughout the modernization process.”*

*–Lieutenant General Jon A. Jensen, Director Army National Guard, 2021 Annual Association of the U.S. Army*

### A. Current Status of the Army National Guard

#### 1. General Overview

##### Top ARNG Focus Areas

- Ensure all Army National Guard (ARNG) equipment is interoperable, compatible, deployable, and sustainable
- Address Intelligence and Mission Command gaps for Army of 2030 interoperability
- Implement the Regionally Aligned Readiness and Modernization Model (ReARMM)
- Complete Blackhawk/Apache helicopter modernization by FY 2034
- Mitigate the risk Headquarters, Department of the Army (HQDA) has taken with Enabling Structures and Enduring Equipment, i.e., Maneuver & Service Support, Transportation, and Soldier Protection
- Maintain modernization parity in Soldier Systems with Regular Army across the ARNG

The ARNG, which is authorized 336,000 Soldiers (FY 2022), is a combat-tested and experienced operational force and the nation’s most capable and responsive disaster and crisis response force. The ARNG increases the capabilities and capacity of the Total Force, providing the Army with 39 percent of its Operating Forces and 22 percent of its Generating Forces and managing nearly 42 percent of its aircraft, both manned and unmanned. Its status as the combat reserve of the Army requires that the ARNG build readiness for the war fight. As a domestic crisis response force, the nation’s governors call on the ARNG year-round to support civil authorities and respond to emergencies. The ARNG exists in more than 2,500 communities across the nation, maintaining 2,278 readiness centers, 110 training centers, 54 regional training institutes, and 772 maintenance facilities. The ARNG’s Citizen Soldiers embody civilian and military skill sets well-suited to understanding and operating in increasingly complex global and domestic environments.

#### a. ARNG Modernization Overview

As the Army focuses on pacing challenges and acute threats for 2030 and beyond, it is undergoing its most significant reorganization and modernization since the end of the Cold War. Total Army modernization must balance readiness, be sustainable, and align with available resources. In this period of transformation, the ARNG’s overarching

strategic modernization challenge is to ensure all ARNG enabling structure and enduring equipment is interoperable, deployable, and sustainable across the Total Army and Joint Force. Notably, certain ARNG enduring intelligence, mission command, air defense, maneuver, and soldier systems will reach end of useful life before being modernized with new equipment, which may result in interoperability and capability gaps.

An additional challenge is that as enduring equipment is maintained in inventory longer, costs in sustainment and installations support will likely increase. The FY 2024 NGRER provides a general overview of ARNG modernization, the status of its equipment on hand (EOH), a summary of changes since the last NGRER, a review of future years programs, and a summary of the NGREA. ARNG G-3/5/7's Force Development Division serves as ARNG's principal coordinator for ARNG equipment modernization, funding, and fielding activities and coordinates with NGB Joint Staff, ARNG G-Staff, the 54 states and territories, the District of Columbia, Congressional Liaisons, the Office of the Secretary of Defense for Manpower and Reserve Affairs (OSD-M&RA), and the Army Staff to plan the equipping of the ARNG. As the Army enters a new period of transformation, the ARNG must remain relevant and ready, now more than ever, to maintain its ability to respond to events at home and abroad.

In addition, the ARNG has soldiers working with Army Futures Command's (AFC's) eight Cross-Functional Teams and within ASA(ALT) and its subordinate Program Executive Offices (PEOs) to ensure the ARNG perspectives and mission requirements are incorporated into the Army's six top modernization priorities. These investments continue to directly support the Director of the Army National Guard's (DARNG) modernization goals.

#### **b. Status of the ARNG as an Operational Force**

*"We don't go anywhere or do anything without the National Guard. We can't do what we do as an Army without the National Guard."*

*—General James C. McConville, Army Chief of Staff, 144th General Conference & Exhibition*

The ARNG today comprises 8 Division Headquarters, 2 Special Forces Groups, 1 Security Force Assistance Brigade, 27 Brigade Combat Teams (BCTs), 42 Multifunctional Brigades, and 64 Functional Brigades and Groups across all states, territories, and the District of Columbia. As of September 30, 2022, 23,710 ARNG Soldiers were mobilized in a Title 10 status to provide Global Force Management Allocation Plan (GFMAP) requirements supporting Combatant Commanders (CCDR). In addition, 14,200 Citizen Soldiers were deployed for overseas training or to conduct Defense Support of Civil Authorities (DSCA), such as responding to COVID-19, wildfires, southern border activities, and hurricanes. The end strength and force structure balance of the Total Force necessary to respond to global threats requires the

ARNG to remain tactically and technically proficient, while simultaneously modernizing and building toward becoming an MDO ready force. This requires a multi-year training cycle to build readiness through collective and individual training tasks to achieve required readiness levels and prepare for deployment throughout the competition continuum. CCDRs develop requests for forces to support rotational and cyclical operations to provide predictable activations for RC units and members. This allows CCDRs to campaign effectively and retain operational experience in the ARNG.

**c. Defense Support of Civil Authorities and State Missions**

The ARNG supports a wide variety of mission sets, ranging from domestic operations to Homeland Defense (HLD) and Homeland Security (HLS) response, that require specialized skills and equipment, including Weapons of Mass Destruction Civil Support Team (WMD-CST), Civil Disturbance, Counter Drug, Cyber, and Disease Response as shown in Table 2-1.

*Table 2-1. FY 2022 DSCA and State Missions*

Event Type	ARNG Event	Man-Days	Event Type	ARNG Events	Man-Days
Civil Disturbance	9	4,294	Other	658	17,803
Counter Drug	360	512,084	Search and Rescue	39	234
Cyber	2,375	20,276	Severe Weather	31	500
Disease Response	361	2,657,894	Special Events	6	1,267
Flood Support	169	17,100	Tornado	42	8,615
Hurricanes - Tropical Storms	153	35,053	Water Support	66	786
Key Asset Protection	356	185,426	Wildfires Support	1,428	127,176
Law Enforcement Support	1,318	1,226,745	Winter Storm Response	74	9,004
MEDEVAC	1	4	<b>Total</b>	<b>7,447</b>	<b>4,824,711</b>

In FY 2022, the ARNG contributed over 4.8 million man-days to the states and territories and the District of Columbia for nearly 7,500 various missions. With continued support for COVID response efforts, increased civil unrest, and an upswing in wildfires across the western portions of the U.S., the ARNG has answered the call for these critical missions. The ARNG provides civil authorities 10 critical core capabilities that save lives, protect property, and help communities recover from catastrophic events.

These “Essential-10” capabilities are Aviation/Airlift; Command and Control; Chemical, Biological, Radiological, Nuclear, and High-Yield Explosives (CBRNE); Engineering; Medical; Communications; Transportation; Security; Logistics; and Maintenance. The

National Guard Chemical, Biological, Radiological, Nuclear Response Enterprise elements consist of the WMD-CSTs, HLD/HLS Response Forces, and CBRNE Enhanced Response Force Packages. To be ready and available to respond to these missions, it is crucial the ARNG’s Essential-10 capabilities receive the most modern and capable equipment.

## 2. Status of Equipment

### a. Equipment on Hand

The ARNG, in coordination with Headquarters, Department of the Army (HQDA) produces the biannual ARNG EOH Dashboard (referenced in Appendix B), which provides an overall percentage of EOH against requirements in the Modified Tables of Equipment (MTOE) for all states and territories and the District of Columbia. The EOH percentages are calculated without substitutions.

The ARNG Dashboard also depicts equipment available for domestic operations, anticipated equipment deliveries, the percentage of modernized equipment, and Critical Dual Use (CDU) equipment divided into ARNG Essential-10 requirements. The CDU list comprises equipment critical to both domestic and warfighting missions and is updated periodically by the Army in coordination with ARNG to reflect changes to current requirements and force structure. Each year, the Director, Army National Guard submits CDU list recommendations to HQDA for vetting and approval.

As of August 2022, without counting authorized substitutions, ARNG MTOE units have 88 percent of all required EOH and 96 percent of CDU EOH. Accounting for operational readiness status, 84 percent of all MTOE unit equipment and 90 percent of equipment is available to governors. Table 2-2 provides an overview of the most significant ARNG CDU shortages in accordance with Essential-10 requirements to equip DSCA/HD missions. As CDU equipment is modernized, the Army’s strategy is to pure-fleet ARNG shortfalls by fielding the most modern equipment or cascading more modern equipment.

*Table 2-2. ARNG Top Critical Dual Use Shortages*

Capability	Nomenclature	Procurement Unit Cost (PUC)	Shortage	Shortage Value
Logistics	Load Handling System (LHS) 2,000 Gal Tank (HIPPO) <sup>a</sup>	\$131K	828	\$108.5M
Transportation	Semitrailer Flatbed: Container Transporter 34T <sup>b</sup>	\$106K	1,174	\$124M
Transportation	Semitrailer Low Bed 25T 4 Wheel	\$180K	273	\$49.1M
Security	Cold Weather All-Terrain Vehicle	\$1,093K	20	\$21.8M

<sup>a</sup> Capability will be further addressed in Parity Assessment.

<sup>b</sup> ARNG Pacing Item (i.e., mission critical equipment impacting readiness reporting).

Note: The quantity shortages depict the equipment shortfalls and total funding cost projected in FY 2023 as reported against the 2026 Structure and Composition System (SACS) File.

**b. Average Age of Major Items of Equipment**

The average of selected major equipment items at the beginning of FY 2022 is provided by ARNG *Table 2 Average Age of Equipment*. The Army continues to invest in manufacturing and recapitalization programs through FY 2023 to support strategic modernization. Changes to Army modernization priorities have required the Total Force to retain some enduring equipment past its economic useful life (EUL), until funding is available to modernize or replace it. For example, the M1097 High Mobility Multi-Wheeled Vehicle (HMMWV) is both a CDU item and one of the primary Light Wheeled Vehicles for units used in the war fight. The ARNG continues to modernize its mixed fleet of medium and heavy wheeled vehicles that support warfighting requirements.

Aging equipment degrades the quality of the Total Force as the Army competes globally across the engagement spectrum, but appropriated funding mitigates the effects of an aging ARNG fleet. The recapitalized Heavy Expanded Mobility Tactical Trucks (HEMTT) are now equipped with the Army’s most technologically advanced operational capabilities and soldier safety upgrades.

The convergence of the Logistics Information Warehouse Database with the Program Manager (PM) Army Enterprise System Integration Program in FY 2018 rendered FY 2022 average equipment data irretrievable. The current system is unable to capture the age of equipment as items are divested or replaced by more modern equipment. This affects the validity of data in ARNG *Table 2 Average Age of Equipment*.

ARNG is collaborating across the enterprise to retain the data source used to compute Age of Equipment to comply with Office of the Secretary of Defense (OSD) requirements. The enterprise is still developing tools inside the Army Vantage system to ensure accurate data is provided for this requirement. The ARNG cannot validate equipment processed through Service Life Extension Programs (SLEP), Depot Rebuild, or other programs to properly calculate this requirement. Age of Equipment is an approximation based on last year’s report.

*Table 2-3. Army National Guard Top Enduring Equipment*

Nomenclature	Line Item Number (LIN)	Procurement Unit Cost (PUC)	Total PUC Cost	Shortfall Quantity
Launch M60 Series Tank Chassis Transporting: 40 & 60 ft.Bridge	L43664	\$527K	\$0	0
Semitrailer Low-bed: 40-ton 6-Wheel	S70594	\$52K	\$2,028K	39
Recovery Vehicle Full Tracked: Medium M88A1 <sup>a</sup>	R50681	\$1,210K	\$0	0

<sup>a</sup> ARNG Pacing Item (Mission Critical equipment impacting readiness reporting). Note: The Average Age (years) is an estimate using FY 2019 data.

**c. ARNG Modernization**

The ARNG must maintain a balanced modernization strategy to meet requirements for Active and Reserve Component missions. Modern equipment is any Minimum Mission Essential Wartime Requirement (MMEWR) on a unit’s authorization document, including substitutions. The modernization of equipment always reflects the current Army Modernization Strategy and is primarily based on funded procurement objectives. The ARNG currently reports in the aggregate 88 percent EOH for modern equipment matching documented authorizations.

The first portion of Table 2-4 shows the FY 2024 forecast for the “Go to War” EOH along with cross-sections of equipment that meet, exceed, or fall below requirements.

*Table 2-4. Army National Guard 2023 MTOE Modernization Shortages*

FY 2023 MTOE & Aug-TDA	Requirement	On-Hand Capped	Shortage	Percentage Shortage
Active Component	2,887,269	2,661,671	225,598	7.8%
Army National Guard	2,633,780	2,410,355	223,425	8.5%
US Army Reserves	1,089,130	998,102	91,028	8.4%
Total	6,610,179	6,070,128	540,051	8.2%

The second portion of Table 2-4 shows the FY 2023 requirement cost, on-hand inventory cost, and shortage cost, by Component (COMPO), for Modified Table of Equipment (MTOE) and Augmented Table of Distribution and Allowance (Aug-TDA) equipment.

FY 2023 MTOE & Aug TDA	Requirement Cost	On-Hand Capped Cost	Shortage Cost	Percentage Shortage
Active Component	\$136,221,713,318	\$128,092,152,162	\$8,129,561,157	6.0%
Army National Guard	\$75,740,491,292	\$73,161,037,760	\$2,579,453,533	3.4%
US Army Reserves	\$22,440,770,664	\$21,317,068,876	\$1,123,701,788	5.0%
Total	\$234,402,975,274	\$222,570,258,798	\$11,832,716,477	5.0%

*% Fill is EOH Percentage*

*DOES NOT Includes substitutions and deliveries/transfers/turn-ins through FY 2023*

**d. Maintenance**

The age and condition of ARNG maintenance facilities remains a concern as approximately 42 percent of the 772 ARNG maintenance facilities are over 40 years old and do not effectively facilitate maintenance on modernized equipment. While the footprint of the most modern Abrams tanks and Bradley fighting vehicles remains essentially the same, increased weight puts stress on the facility base and increases structural stress on overhead lifts. Modernized test and diagnostic equipment will

increase electrical pull and demand additional floor space to perform troubleshooting and maintenance.

Military funding for the ARNG's long-range surface equipment maintenance facilities construction plan remains at \$4.5 billion, based on input from the Planning Resource for Infrastructure Development and Evaluation database. Maintenance performed at these facilities directly impacts operational readiness and units' ability to train to standard and prepare to deploy to support Army requirements. ARNG maintenance facilities must keep pace with the increasing requirements of a technologically advanced fleet of combat and support equipment. All systems must be prepared for LSCO and MDO, as well as for HLD and DSCA missions in response to both natural and man-made events.

The ARNG Surface Depot Maintenance Program (SDMP) executed by Army Materiel Command supports ARNG fleet strategic readiness. The ARNG SDMP provides reliable and sustainable readiness throughout the lifecycle overhaul of critical combat and support equipment. ARNG depot sustainment activities enable commanders to maximize fleet readiness and apply critical Operations Tempo (OPTEMPO) funding to sustain readiness at the unit level. The ARNG SDMP funding for FY 2022 was \$162 million, 54 percent of the ARNG's critical requirement of \$300.1 million. The ARNG SDMP is critical to producing the operational readiness needed to field combat ready forces.

In FY 2022, ARNG received its full program funded amount of \$31.5 million in Operations and Maintenance, Army (OMA) Appropriation 2020 funding for Field Level Reset (FLR). The program is on track to be fully obligated by the end of FY 2024. As of Q4FY 2022, the ARNG Field-Level Home Station Reset Program (FLHSRP) had restored 104,239 pieces of unit equipment returning from Title 10 deployments supporting overseas contingency operations (CONOP). The program returned this equipment to Technical Manual (TM) 10/20 standards within 365 days of returning to home station. ARNG FLR is a vital to restoring necessary operational readiness to prepare for the mission/training event.

Full or partial unit deployments with organic MTOE place increased reliance on FLR at Home Station. Restoring operational readiness in a timely manner increases availability of unit assets for emerging federal and state missions. In FY 2023, the ARNG Field Level Home Station Reset Program will continue to perform Field Level Reset on Expeditionary Signal Battalion-Enhanced, Division Higher Headquarters Battalion, and ABCT Battalion Task Force equipment sets. Additionally, it will reconstitute various other company and battalion sets of redeployed equipment. These requirements and other comparable or smaller unit sets will continue each year for the foreseeable future.

ARNG Aviation field maintenance continues to be supported by the 107 Aviation Support Facilities in the 54 ARNG states and territories. ARNG Aviation relies on four Theater Aviation Sustainment Maintenance groups (TASMG) for aviation maintenance at the sustainment level. Post deployment Aviation and Missile Command (AMCOM)

funded RESET continues to provide additional sustainment maintenance to return aircraft to a higher state of readiness. Funding for RESET has been reduced in recent years, but use of Condition Based Decision Support Tools (CBDST) allows the ARNG and AMCOM to prioritize aircraft based on the evidence of need for RESET or On Condition Maintenance (OCM), maximizing operational readiness gains.

#### **e. Other Equipment Specific Concerns**

The Army's prioritization of resources to field the Army of 2030 has assumed risk in the transportation, sustainment, and assured mobility portfolios. The cost to field emerging capabilities far exceeds the historical resourcing levels of similar capabilities. For example, the primary weapon of the infantry soldier is the M4 Carbine rifle, which currently costs approximately \$1,000. The emerging capability for the same infantry soldier is the Next Generation Squad Weapon-Rifle (NGSW-R), which currently costs approximately \$5,000. With modernization costs of emerging technologies exceeding current resourcing of the same sized force, the Army must be precise in distributing emerging capabilities and disciplined to achieve a capacity to achieve the Army Modernization Strategy. The ARNG understands this environment will further reduce the rate of modernization across the total force and possibly create capability gaps.

The ARNG requires the restoration of Tactical Wheeled Vehicle (TWV) Fleet Depot Overhaul sustainment level funding in FY 2025 to FY 2024 funded levels. Projected depot reductions beginning in FY 2024 could further reduce or all together eliminate the ARNG's ability to support training and deployment missions and will have a negative impact on the ReARMM timeline for battlefield mobility. The Army's TWV acquisition strategy will not be published until FY 2026, which could leave a significant gap in capability for sustainment that would only be exacerbated by any reductions in new production.

Additionally, the ARNG must be vigilant to ensure modernization efforts do not create unfunded requirements as modernization efforts leverage existing platforms and components to evolve the next generation capabilities. As a result, ARNG units not tied to "first to fight" or forward forces may not be authorized the most modern equipment. This modernization strategy reflects the reality of resource prioritization, but also means that the ARNG must sustain less modern equipment at a potentially higher cost.

The ARNG has continued to diligently adhere to the requirements of Department of Defense Instruction (DoDI) 1225.06, "Equipping the Reserve Forces." The preservation of RC equipment is crucial to preserve equipment readiness. Adherence to DoDI 1225.06 continues to ensure and preserve property accountability and transparency for withdrawals, reductions, or loans of any equipment from the RC. The ARNG, in conjunction with the Army Sustainment Command (ASC) and HQDA G-8, continues to monitor replacement pay back requirements established since 2003 and approved by the Secretary of Defense (SECDEF).



Vigilance and coordination between all stakeholders preserve ARNG unit readiness. Currently, the SECDEF requires the equipment payback plan to be provided within 90 days of transfer for transfers of equipment under Presidential Drawdown (PD) authority rather than the DODI 1225.06 requirement for a payback plan before transfer. Following the Secretary of Army's guidance to not procure enduring technology, the ARNG is working with Army to ensure the payback of harvested equipment is modernized and distributed equitably across the Total Force. Additionally, the ARNG is monitoring projected procurements by current programs to ensure they are not negatively impacted or creating readiness gaps in critical formations.

The current DoDI 1225.06 ARNG register contains 15 types of equipment, totaling 460 pieces that require reconciliation. Additional equipment will be added to the register for equipment transferred to Ukraine to support the PD directives. The ARNG has transferred 132 M113A3 Armored Personnel Carriers (APC), 14 Q-36 Radar Systems, various FMTV trucks and trailers, HEMTT Wreckers and Cargo Trucks, General Mechanics Tool Kits, and other mortars and systems. The ARNG continues to work closely with the ASC and HQDA to ensure equipment is returned and future transfers are properly coordinated and approved per DoD policy.

NOTE: Q-36 Radar Systems are legacy capabilities with projected modernization utilized as ILO for the Q-53 Radar System, enabling fires units to conduct directed missions.

## **B. Changes Since the Last NGRER**

ARNG *Table 1 Consolidated Major Item Inventory and Requirements* and ARNG *Table 7 Major Item of Equipment Substitution List* provide projected equipment inventories, shortfalls, and modernization requirements for the ARNG from FY 2024 through FY 2026. The projected requirements for the FY 2026 Total Army Equipment Distribution Plan (TAEDP) are based on the June 2026 SACS File.

The most notable change between past and current reports is the decreased ARNG EOH percentage with authorized substitutions. In the current report, the Army calculated ARNG EOH without authorized substitutions as 8.5 percent shortage, as compared to a 6.71 percent shortage reported previously, which included authorized substitutions. The increase in EOH shortages is caused by the Army's updated authorized substitution definition. Although the Army mandates the use of on-hand authorized substitute equipment to fill capability gaps when there are delays in modernization, an authorized substitution is only valid for equipment at the same modernization level or higher.

For example, if the ARNG is authorized the M1A2 SEPV2 Abrams Tank, only the M1A2 SEPV3 (more modern variant) may be used as an authorized substitution. Last year, the Army allowed the M1A1 AIM-SA (less modern variant) as an authorized substitution for the M1A2 SEPV2 Abrams Tank. This change in methodology helps the ARNG more accurately track the modernization levels of formations.

## **C. Future Years Program (FY 2024–FY 2026)**

### **1. FY 2025 Equipment Requirements**

ARNG *Table 1 Consolidated Major Item Inventory and Requirements* provides the projected FY 2024–FY 2026 major equipment inventories and requirements. ARNG identified equipment items that are CDU and Pacing items (mission critical equipment impacting readiness reporting).

### **2. Anticipated New Equipment Procurements**

The new Cold Weather All-Terrain Vehicle (CATV) will replace the aging Small Unit Support Vehicle (SUSV) starting in FY 2023. The SUSV is a lightweight, tracked vehicle with exceptional cross-country mobility, capable of operating in extreme environmental conditions and in terrain that is impassable to most other forms of vehicular transportation, such as snowy, marshy, amphibious, and mountainous terrain. ARNG units in Alaska, Vermont, Colorado, and Minnesota use the SUSV to perform disaster response and training support, including training at the Army Mountain Warfare School at Camp Ethan Allen in Jericho, VT. The SUSV is not a Program of Record (POR) with associated sustainment maintenance and reset funding provided, and this aging fleet has required significant amounts of funding to maintain operational readiness rates. However, in May 2019, the Army Requirements Oversight Committee (AROC) approved the new CATV as a POR with a requirement of 92 vehicles for the ARNG.

### **3. Anticipated Transfers/Withdrawals from ARNG Inventory**

ARNG *Table 5 Projected Equipment Transfer/Withdrawal Quantities* shows inventory excess to the Army that has the potential to fill shortages in the ARNG each year from FY 2024 to FY 2026. Transferred equipment that is provided to the RC once the Army receives more modern equipment is commonly called “cascaded equipment.”

The Army’s challenge will be balancing current and future readiness. ReARMM is built on the principles of predictability, stability, and synchronization, allowing Soldiers and leaders to know their Unit Lifecycle in detail 5 years out and generate and preserve sufficient levels of readiness to meet demand with modernization, training, and mission requirements. ReARMM enables Army to make transformational changes to multi-domain land power and focuses ARNG units regionally with predictable, habitual relationships to specific missions and theaters. Such focus enhances Army support to competition, synchronizes all Army components, and provides predictability to formations.

In FY 2022, the Army continued to cascade modernized equipment across the Major Capability Portfolios to fill readiness shortfalls. Although the equipment generally received is not the most modern, the items received fill capability gaps to promote readiness with combat capable equipment. Of note, the ARNG anticipated many M1097 HMMWV would be cascaded from the Army as the Army fielded the Joint Light Tactical Vehicle (JLTV) to Regular Army formations. The Army also identified additional potential

cascades to increase EOH in Soldier Systems (M4A1 Rifles and PVS-14 Monocular Night Vision Device), as well as 1,485 Combat Support Systems (Mine Resistant Ambush Protected All-Terrain Vehicle).

#### 4. Equipment Shortages and Modernization Shortfalls

*Table 8 Significant Major Items Shortages* provides equipment inventories, shortfalls, and modernization requirements for the ARNG. The primary equipment items of concern are Mission Command systems that ensure ARNG interoperability with the Army and the Joint Force. In addition, the ARNG continues to seek modernization solutions in the Intelligence and Electromagnetic Warfare, Engineering, and Mobility portfolios. ARNG *Table 8 Significant Major Items Shortages* excludes the five required systems discussed in the 2019 National Defense Authorization Act Parity Assessment (addressed in Appendix D) and other ARNG equipping shortfalls where sourcing solutions have been identified.

The quantity and funding shortfalls in the following major capability portfolios depict the equipment shortfalls and total funding cost from the ARNG MTOE and Augmentation Table of Distribution & Allowance (Aug-TDA) equipment requirements projected in FY 2024 as reported against the TAEDP using the 2026 SACS File.

##### a. Aviation Portfolio

The ARNG holds 42 percent of the Army's aviation force structure, which consists of rotary wing, fixed wing, and unmanned aircraft systems; aviation ground support equipment; and air traffic control systems. The ARNG AH-64 fleet will modernize with the AH-64E in FY 2023, FY 2025, and FY 2026. The H-60 fleet will be modernized with the H-60M by FY 2027 and H-60V by FY 2034. ARNG is postured to integrate the Future Long Range Assault Aircraft into the ARNG Aviation fleet under the Future Vertical Lift Cross Functional Team with FUE FY 2030.

##### **Investment in New Procurement and Modernization:**

The ARNG divested the final UH-60A Blackhawks in FY 2022. The ARNG has been fielded 360 of the most modern H-60M Blackhawk Helicopters and is on track to reach the approved acquisition objective (AAO) of 535 by FY 2027. The ARNG is fielding the H-60V and will field to the total authorization of 366 (AAO) H-60V Blackhawk Helicopters. Fielding of the first H-60V equipped Assault Helicopter Battalion is on track to be complete by Q2FY 2023. By FY 2034, the ARNG's H-60 Helicopter Fleet is projected to be completely modernized with full glass cockpit capability and a mix of H-60M and H-60V aircraft.

Future Long Range Assault Aircraft (FLRAA) is the next generation of affordable vertical lift, assault, and intra-theater aeromedical evacuation (MEDEVAC) aircraft for the Army with primary missions of long-range assault and the air movement of personnel and equipment. COMPO Splits have not been determined because FLRAA is in RDTE with a downselect in Q1FY 2023. The first unit is to be equipped in FY 2030. Though

COMPO splits have not been determined, GEN McConville stated at the 2019 Army Aviation Association of America, “We also see them being fielded to the National Guard in units with high priority early on as we go forward,” in reference to FLRAA.

The ARNG’s Heavy Lift Cargo Helicopter Fleet consists of 156 (AAO) CH-47F Block 1 modernized rotary wing aircraft and is currently awaiting a Q4FY 2023 decision point for production and fielding of the CH-47F Block II.

Over 198 UH-72A MTOE (212 AAO) Lakota Light Utility Helicopters are approaching their EUL within the next 10 years. They require lifecycle recapitalization to sustain the fleet through the following decade. The ARNG cascaded 18 UH-72As to the United States Army Aviation Center of Excellence (USAACE) between March 2021 and December 2022) in exchange for 18 UH-72Bs. Fielding UH-72B to the ARNG commenced in August 2022 and is scheduled to complete in March 2023.

The Army’s plan to modernize the four ARNG Attack Battalions (ABs) with 24 AH-64E Apache aircraft in each AB from FY 2022 through FY 2027 remains unchanged. 1-151st ARB (SCARNG) fielded the first 24 ARNG AH-64Es in FY 2022. The remaining ARNG ABs are equipped with 18 AH 64D Apaches each. The ARNG continues divesting AH-64Ds to the AH-64E remanufacturing line while fielding additional AH-64E ARBs from FY 2023 through 2027.

The ARNG fixed-wing fleet is comprised of 57 aircraft (46 C-12 and 11 C-26) stationed in 52 (49 CONUS and 3 OCONUS) locations.

The ARNG completed 100 percent of the version 2 fielding for the RQ-7B Shadow (most modern) Unmanned Aerial Systems (UAS) in FY 2022. The 19th and 20th SFG units will receive the Block III RQ-7 Shadow. Future Tactical UAS (FTUAS) fielding will be determined through ReARMM. The RQ-11 Raven is currently equipped at 77 percent across ARNG formations. The Raven program for all components was capped at 85 percent. The high attrition rate of operators, currency requirements, system shortages, and funding for schools has left multiple units unable to adequately train and maintain proficiency in a pre-mobilization status.

The Medium Range Recon UAS will replace the Raven beginning in FY 2022 and PM UAS will field ARNG units to full authorizations. Soldier Borne Sensor has been fielded to ARNG units beginning in FY 2021 through FY 2032 with 456 per year, decreasing each year, before reaching a total of 3,578. Short Range Recon fielding starts FY 2023 for ARNG units, culminating with 3,224 systems by FY 2026.

#### **b. Maneuver Portfolio**

The Maneuver Portfolio encompasses families of combat systems including Abrams tanks, Bradley and Stryker Fighting Vehicles, and HERCULES Recovery Vehicles for ARNG Armored Brigade Combat Teams (ABCTs) and Stryker Brigade Combat Teams (SBCTs).

**Investment in New Procurement and Modernization:**

The ARNG projects three ABCTs will be modernized by procuring new Abrams (M1A2 SEPv3) and by cascading Bradley Fighting Vehicle (BFV) (M2A3) from the Regular Army. Cascading of M2A3s initiatives kicked off in FY 2023 with a few readiness challenges captured during recent modernization efforts between the 1-3 Infantry Division (ID) and the 278th Armored Cavalry Regiment (ACR); nearly half of the cascaded BFVs (67 of 138) were non-mission capable upon receipt. Addressing these maintenance deficiencies will require additional time, manpower, and resources.

The ARNG maintains the only mixed fleet ABCT of modernized M1A2 SEPv2 and less-modern M1A1 AIM-SA Abrams tanks in the Army Enterprise. A mixed fleet poses additional parts, logistics, and supply chain challenges that hamper an ABCT’s ability to maintain readiness for deployment. The shortfall of 14 of the most modern Abrams tanks listed in Table 2-5 reflects one cavalry troop in the 116th ABCT, which is now tentatively scheduled to receive 14 M1A SEPv2 in FY 2023.

The Army increased funding to provide both active component and ARNG ABCTs with modernized M88A2 HERCULES recovery vehicles. The HERCULES allows single vehicle recovery of the 70-Ton SEPv2 Abrams tank. However, funding is unavailable for increased ARNG authorization requirements (from 5 to 28) as reflected in Table 2-5. Lastly, the Army invested in five variants of Armored Multi-Purpose Vehicles (AMPVs) to modernize the M113 Armored Personnel Carriers within the ABCTs. The ARNG will receive its first set of AMPVs no later than FY 2025 for its top prioritized unit.

*Table 2-5. ARNG Top Maneuver Modernization Shortages*

Nomenclature	Line Item Number	PUC	Total PUC Cost	Shortfall QTY
Tank Combat Full Tracked 120MM M1A2	T13305	\$11.8M	\$165.2M	14
Recovery Vehicle Full Tracked: Heavy M88A2	R50885	\$3.15M	\$88.2M	28

**c. Soldier Portfolio**

The Soldier Portfolio administers oversight for all equipment under PEO Soldier, both lethal and non-lethal. The portfolio is fundamental to maintaining the ARNG as an operational force.

**Investment in New Procurement and Modernization:**

The Army has provided mortars, Command Launch Units (CLU) for Javelins, the Improved Target Acquisition System (ITAS) for TOW anti-tank missiles, heavy machine guns, Squad Designated Marksman Rifles, and sniper rifles in step with the total Army, never risking a capability gap.

Night vision is a critical capability for the operational force. The Night vision modernization has not and is not funded to cover any limited APO in COMPO 1 and

COMPO 2. PVS-14s start reaching their EUL in FY 2026 and the PVS-7s started reaching their EUL in FY 2022. Due to a lack of modernization, the ARNG is at risk of becoming non-interoperable with the Regular Army starting in FY 2026. The newest night vision program, Night Vision Device-Next (NVD-N), is the cheapest solution to provide night vision capability. However, the most expensive solution links with the new weapon sight. Either solution requires an approximate 100K item purchase or 54K for the ARNG alone (Table 2-6).

Table 2-6. ARNG Top Soldier Modernization Shortages

Nomenclature	Line Item Number	PUC	Total PUC Cost	Shortfall QTY
ENVG-B	Z05984	\$31,900		
ENVG-III	V05010	\$20,000		
PSQ-20	N07848	\$18,500		
PVS-14	M79678	\$3,607	-	None
PVS-7	N05482	\$7,621	-	None

**d. Air and Missile Defense Portfolio**

The ARNG Air and Missile Defense (AMD) portfolio supports seven Avenger Battalions (BNs), three Air Defense Brigades, one Army Air and Missile Command, one Air Defense Regional Training Institute, and 72 Air and Missile Airspace Management Operation Centers. The ARNG Army Air and Missile Defense Command has oversight of the ARNG units currently rotating into the National Capital Region to support the Integrated Air Defense System mission, as well as European Defense Initiative exercises. Currently, the ARNG Avenger BNs account for 78 percent of the Total Army’s Short Range Air Defense capacity. Modernizing the ARNG Avenger BNs remains a top priority before Avenger end-of-life (EOL) in 2031. Additionally, ARNG Avenger BN Batteries are deploying to support Operation Spartan Shield and the European Defense Initiative. ARNG Air Defense Units continue to support training at the National Training Center and Joint Readiness Training Center and multiple test exercises.

**Investment in New Procurement and Modernization:**

Beginning in FY 2023, the Army plans to activate additional Division Air Defense (DivAD) BNs with modernized AMD Planning and Control Systems (AMDPCS). The activations delay the modernization of six of the seven ARNG Avenger Battalions (originally planned to begin in FY 2018) into FY 2023–FY 2025, requiring sustainment of existing Avenger/AMDPCS systems beyond FY 2030.

The ARNG modernization delays limit available units for CCDRs for the war fight. As the Army determines future Air Defense capabilities, the ARNG looks forward to the Army’s plan to modernize all seven ARNG Avenger Battalions.

**e. Indirect Fires Portfolio**

The Indirect Fires portfolio in the ARNG supports all BCTs and accounts for 70 percent of the Army’s Field Artillery Echelon above Brigade (EAB) force structure. The Indirect Fires portfolio consists of Field Artillery platforms, munitions, sensors, and command and control systems. Major items include M119A3 and M777A2 Howitzers, Paladins, the Multiple Launch Rocket System (MLRS), the High Mobility Artillery Rocket System (HIMARS), the Q-50 Lightweight Counter Mortar Radar, and the Q-53 Counter Fire Target Acquisition Radar.

**Investment in New Procurement and Modernization:**

In FY 2024, two ARNG MLRS BNs will increase in size from two Batteries with eight launchers (M270A1s) each to three Batteries with nine launchers each. The Regular Army will cascade the additional M270A1s to the ARNG. The ARNG is fielding the M109A7 Self-Propelled Howitzer under the Paladin Integrated Management program and will continue fielding one ARNG ABCT per year until complete in FY 2025. The ARNG received 49 Q-53 targeting radars as of November 2022, 57 percent of its Q-53 authorization of 86, including 8 Division Artillery (DIVARTY) units. The ARNG projects it will complete Q-53 radar fielding in FY 2027. In FY 2033 through 2034, the ARNG is projected to modernize two MLRS BNs with the M2270A2 MLRS Launcher, which will provide Soldiers with a higher survivability capability (see Table 2-7).

*Table 2-7. ARNG Top Indirect Fires Modernization Shortages*

Nomenclature	Line Item Number	PUC	Total PUC Cost	Shortfall QTY
MLRS: M270A2	Z05503	\$5,353,000	\$172M	32
Counter Fire Target Acquisition Radar – Q53	R05016	\$8,500,000	\$314.5M	37

**f. Mission Command Portfolio**

The Mission Command portfolio is a modernization centric portfolio that involves hardware, software, and networks and encompasses Battle Command Information Systems and Mission Command Transport & Enablers. Mission Command modernization efforts are aligned with the Network Modernization Strategy, focusing on those activities and capabilities that improve network mobility and survivability; support joint/coalition interoperability; simplify the tactical network to reduce complexity; and address electromagnetic warfare/cyber vulnerabilities. The network is one of the Army’s six signature modernization systems defined to Congress in 2018. The network puts the “to” in the “sensor to shooter” (S2S) warfighting capability and is the key to enabling Command and Control. The Mission Command portfolio is aligned with Army Futures Command Network Cross Functional Team (N-CFT) and the Assured Positioning, Navigation and Timing (A-PNT) CFT modernization efforts. New equipment fielding and training is organized by the PEO Common Control Communications Tactical (C3T) Program Office for units that meet the HQDA G-3/5/7 Prioritization List.

**Investment in New Procurement and Modernization:**

Resourcing prioritization for Mission Command Systems is governed by the ReARMM and Dynamic Army Requirements Priorities List (DARPL) modernization models. The Army is accelerating the Joint Battle Command-Platform (JBC-P)/BFT2 modernization efforts through FY 2025 to address a significant electronic warfare/cyber vulnerability, leverage improved capabilities and get the Army on a common baseline. The JBC-P family of systems provides secure blue force tracking (BFT) capability at the platform and command post levels, and continuous near-real-time identification of friendly locations to populate the tactical common operating picture. JBC-P is found in all operational echelons and formation types and in virtually all vehicle platform variants.

Fielding JBC-P allows the Army to retire older on-hand versions of enduring system FCB2 and JCR hardware and software, which will reduce interoperability issues, cyber vulnerabilities, and maintenance costs of older hardware and software. The ARNG is currently projected to meet full operational capability with the most modern JBC-P/BFT2 hardware, software, and network by 4QFY 2025, ensuring the ARNG is 100 percent BFT interoperable and modernized. Modern tactical radio systems are critical to interoperability between Warfighter functions (Mission Command Network, S2S Chain, and Enablers). A combination of Handheld, Manpack, Small Form Fit (HMS) Radios; Combat Net Radio (CNR); and High Frequency (HF) radios will be used to modernize the legacy radio fleet. The current Army Radio Modernization plan is Crypto Mod (CM1) compliant for Army of 2030, Army-wide Special Operations Forces, and Army-wide Fires by 2028. The rest of the force will be CM1 compliant by FY 2034. Table 2-8 reflects the current 17,003 QTY shortfall of the JBC-P system (aggregate of four JBC-P LINs).

*Table 2-8. ARNG Top Mission Command Modernization Shortfall*

Nomenclature	Line Item Number	APUC	Total PUC Cost	Shortfall QTY
JBC-P	<u>C05036</u> <u>C05037</u> <u>C05054</u> <u>C05055</u>	\$28,084	\$477,512M	17,003

**g. Force Protection**

Equities within the Force Protection Portfolio help equip Military Police, Explosive Ordnance Disposal (EOD) units, Chemical units, and various units that fall within the Chemical Response Enterprise. Equipment within the FP Portfolio consist of warfighter protection systems, including the M41A1 Protective Assessment Test System (PATs), the Acoustic Hailing Device, protective masks (such as the M53A1 mask and the Joint Service Aircrew Mask-Rotary Wing mask), and the Nuclear, Biological, and Chemical Reconnaissance Vehicle (NBCRV). This portfolio has historically relied heavily on Overseas Contingency Operations (OCO) funding and has sometimes been used as a bill payer for higher priority portfolios.



**Investment in New Procurement and Modernization:**

The termination of OCO funding, coupled with departmental decisions, has left a lot of programs within this portfolio at or below the Minimum Sustainment Rate (MSR) or has lengthened procurement timelines. Although procurement timelines have been extended, the ARNG is on par with the Regular Army and the Army Reserves to receive Force Protection assets. Currently, the ARNG is scheduled to have upgraded dosimeters. There will be a mixed fleet of both the PDR-75As and the Joint Personal Dosimeters (JPD-Is). The ARNG is also funded to receive their full authorization of the Next Generation Advanced Bomb Suit (NGABS), which will replace the Army’s legacy 23-year-old bomb suit.

The NBCRV provides the Joint Force with the only CBRN mounted reconnaissance capability and is a pacing item within the Force Protection Portfolio. The ARNG ABCTs and Infantry Brigade Combat Teams (IBCTs) have 85 percent of authorized NBCRVs. The ARNG will modernize the NBCRV fleet through a sensor suite upgrade (SSU). The SSU uses mature technologies for standoff and proximate detection and identification (D/ID) of CBRN threats, manned-unmanned teaming, tip and queue functions, and autonomy.

The first unit equipped for the NBCRV SSU, scheduled for Q4FY 2023, is currently funded to reach Army of 2030 requirement in FY 2039 and the Total Army requirement in FY 2069. All 69 of the NBCRVs currently within the COMPO 2 fleet will be outfitted with the SSU. The ARNG had a requirement of 81 NBCRVs and currently has a shortfall of 12 NBCRVs, as indicated in Table 2-9. Lethality in the ARNG maneuver formations is degraded without these required reconnaissance assets.

*Table 2-9. ARNG Top Mission Command Modernization Shortfalls*

Nomenclature	Line Item Number	PUC	Total PUC Cost	Shortfall QTY
Nuclear, Biological, and Chemical Reconnaissance Vehicle	N96543	\$4.5M	\$54M	12

**h. Intelligence and Electromagnetic Warfare Portfolio Overview**

The intelligence and electromagnetic warfare (IEW) portfolio consists of systems that support Military intelligence and electromagnetic warfare (EW) activities. The portfolio enables the integration of dynamic, time-sensitive intelligence from space, aerial, and terrestrial layer sensors that provide targeting data directly to fires networks to identify threats in Anti-Access/Area denial (A2/AD) environments. The IEW Portfolio also provides commanders across the battlefield with Intelligence, Surveillance, and Reconnaissance (ISR), EW, and Cyber capabilities tailored by echelon to inform the Common Operating Picture (COP) and Commander’s decisions and dominate the electromagnetic spectrum. These capabilities must be enabled by TOP SECRET transport networks connected to collection systems, bridging national to tactical

intelligence to support deep sensing for long range precision fires (LRPF) in the contested deep maneuver, operational, and strategic fires areas.

**Investment in New Procurement and Modernization:**

The modernization of the IEW portfolio is a focal point of the Army Enterprise, governed by ReARMM and centered on interoperability. The new multi-domain intelligence (MDI) systems are the “sensor” in the S2S kill chain and are interdependent upon programs across many portfolios. Intelligence capabilities are now developed through a system-of-systems approach and can no longer be viewed through a LIN centric lens. In the MDO fight, the most essential capability is access to real time sensor data, from “Space to Mud,” to enable S2S interoperability at all echelons. Interoperability is reliant upon modernized mission command infrastructure, such as the Command Post Computing Environment (CPCE), the Tactical Sever Infrastructure (TSI), and the EW infrastructure, such as the Electronic Warfare Planning and Management (EWPMT), for operational communications and cross cueing. The Tactical Intelligence Targeting Access Node (TITAN) accesses sensor data from multiple sensors simultaneously. The Terrestrial Layer System (TLS) Echelon Above Brigade (EAB) leverages SIGINT, EW, and Cyber data.

Both TITAN and TLS provide situational awareness, targeting data, and situational understanding to operators while informing the Common Operating Picture (COP) at Division and below. The enduring systems provide limited operational capabilities in the Joint All Domain Operations (JADO) fight and are compatible with modernized equipment, injecting risk to the interoperability of ARNG units with Army and Joint forces. Investment priorities are disconnected from MDO strategy with imbalanced investments that heavily favor shooters over sensors/network capabilities. Sensor and network investments must reflect MDO S2S priorities to ensure Total Force interoperability.

New IEW force structure will convert or activate with no current equipment capabilities in production and current EOH will reach End of Useful Life (EUL) before modernized equipment is fielded. Delays in developing and procuring modernized IEW equipment coupled with aging enduring equipment and minimal fielding prioritized to ARNG units will result in a significant capability gap in the majority of ARNG units. In FY 2023, 36 percent of all units will have shortfalls caused by hardware that is not Authority to Operate (ATO) compliant. Effects are most strongly felt in Brigade Combat Teams (BCT), Divisions (DIV), Expeditionary Military Intelligence Battalions (E-MIBn), Geospatial, Signals Intelligence (SIGINT), EW capabilities, and critical enablers to MDO and LRPF.

After FY 2023, these units will have 29 percent Geospatial Intelligence (GEOINT) capability and 22 percent SIGINT capability. By FY 2025, approximately 45 percent of all units will be operating non-ATO compliant hardware requiring lifecycle replacement or modernized systems to support MDO. The Distributed Common Ground Station–

Army (DCGS-A) “family of systems” equipment are enduring and bridging items and will continue to be utilized in ARNG units past 2030. There are no enduring EW Programs of Record (PoR) within the Army force structure and recently activated EW Platoons and existing Cyberspace Electromagnetic Activities (CEMA) sections have no authorized EW systems on MTOEs to effectively train and conduct EW operations.

*Table 2-10. ARNG Top Intelligence, Electromagnetic Warfare (IEW) Modernization*

Nomenclature	Line Item Number	PUC	Total PUC Cost	Shortfall QTY
Terrestrial Layer System/Echelon Above Brigade (EAB)	0201FD	TBD	\$896.98M	28
Terrestrial Layer System/Brigade Combat Team (BCT)	0937FD	TBD	\$514.00M	66
Tactical Intelligence Targeting Access Node (TITAN) Advance & Basic	0158FD	\$9–25M	\$900M	36
Counterintelligence Human Intelligence Equipping Program – Army (CIHEP-A)	TBD	\$15–82K	\$46.9M	572
Multi Domain Intelligence (MDI) Intel Apps	TBD	N/A	\$846.52M	TBD
MDI GEOINT	TBD	TBD	\$78,181.59M	TBD
MDI Enduring DCGS-A	TBD	TBD	\$664.52M	TBD
DCGS-A	TBD	TBD	\$8.71M	TBD
TROJAN	TBD	TBD	\$347.356M	TBD
Electronic Warfare Planning and Management (EWPMT)	TBD	TBD	\$91.62	TBD

**i. Engineering and Mobility Portfolio**

The Assured Mobility Portfolio provides critical mobility, counter-mobility, and survivability capabilities, facilitating freedom of maneuver to support the National Defense Strategy, MDO, and the Army of 2030 force. ARNG is budgeted 100 percent of funding within this POM cycle for the Joint Assault Bridge (JAB), which will replace the outdated and enduring Armored Vehicle Launch Bridge (AVLB). The portfolio has been a perpetual billpayer over several years for the Cross-Functional Teams (CFT) and higher priority programs, resulting in a reduction of the portfolio’s Total Obligational Authority (TOA) by 60 percent. To meet gap crossing and Combat Engineer Company (CEC) Force Design Update (FDU) requirements ARNG used NGREA to purchase High Mobility Engineer Excavators (HMEE) and Type II Heavy Cranes. Furthermore, engineer systems have been required to extend beyond the EUL, which leaves little budget for new procurement to upgrade and divest older pieces of equipment out of the Army’s inventory. These decisions have created equipment obsolesces, strained supply chains (domestic and overseas), back orders, and long lead time for parts, resulting in decreased unit readiness within the Engineer Operational Force.

**Investment in New Procurement and Modernization:**

Fourteen systems in the Engineering and Mobility portfolio are 18–41 years of age and beyond their EUL. The aging fleet cannot escape decreasing operational readiness. The perpetual decline in operational readiness has an impact to the respective units being

able to readily deploy. These CDU systems provide mission-critical support and sustain forces during homeland operations and MDO. These systems are the Boat Bridge Erection Inboard Engine: Shallow Draft, Interior Bay Bridge: Floating, Transporter Common Bridge, Crane: 25-Ton All-Terrain, Excavator: Hydraulic Type I and II, Compactor High Speed: Tamping Self-Propelled (CCE), Grader Road Motorized: DED Heavy (CCE), Scraper Earth Moving: SP 14-18 cu yd (CCD), Tractor FT LS: DSL Med DBP w/Bulldoz w/Scarif Winch & with Ripper, Truck Dump: 20-ton DED 12 cu yd Cap (CCE), Semitrailer Low Bed: 40-Ton 6 wheel w/e, Truck Dump: MTV, and Crush Screen and Wash Plant. There are no replacement or modernization solutions for any of these 14 systems. Lateral transfers of operational ready systems for units to fulfill deployment and training obligations will create additional second destination transportation costs to the ARNG. Failure to fund the Army's aging fleet seriously impacts the ARNG Engineering and Mobility portfolio.

Family of Higher Military Load Class (FoHMLC) Bridging. Multirole bridge companies (MRBCs) play a significant role in Gap #8 (Wet Gap Crossing). Bridging systems listed above are pacing items for the MRBC. The degrading operational readiness of these systems will impact the Army's ability to execute Gap #8. The Improved Ribbon Bridge, Dry Support Bridge, and Rapidly Emplaced Bridge testing against increased military load class strike and maneuver platform may create significant risk to gap crossing operations. If bridges fail testing, the requirement becomes to fund either an engineering change proposal or new procurement solution to restore gap crossing capability. There is no opportunity to shift existing resources into new bridging systems until completion of Joint Assault Bridge (JAB) procurement.

Modernize Close Terrain Shaping Capability (CTSO). Without procuring the new Close Terrain Shaping Obstacle system, ARNG will lose explosive terrain shaping capability. The Volcano is the current system. The Volcano has expiring munitions, low launcher operation readiness rating, and reduced munitions stockage due to policy changes. The Combat Engineer Company (CEC) Force Design Update approved in FY 2020 will be implemented in the ARNG from 4QFY 2023 through 4QFY 2026. ARNG Combat Engineer Company—Armored and Infantry units will have 50 percent of the Volcano capability on hand when the full ARNG force structure completes conversions to CEC structure.

Explosive Breaching Capability. Without the Next Generation, Explosive Breacher (NG-EB), there is increased risk to combined arms maneuver because of the limited effectiveness of the current explosive breaching capability, the Mine Clearing Line Charge (MICLIC). MICLIC is the sole explosive breaching capability available to ARNG. The system is over 30 years old and, without a procurement solution, ARNG faces increasing challenges with maintaining readiness. MICLIC has been in sustainment for many years. Back orders for components of major end items continue to go unfilled. MICLIC has significant reliability issues driven primarily by the wired connection and

fuse. TACOM is trying to secure funding to refurbish unserviceable MICLIC systems to fill currently reported shortages.

**Combat Service Support Portfolio:**

The Army has consistently taken risk across the sustainment enterprise. Increased investment is required to equip and modernize the Army to enable delivery of modern, critical sustainment capabilities to support Army 2030. Maintenance, medical, quartermaster, and munitions capabilities comprises the Combat Service Support portfolio essential to both the National Guard’s support to HLD and DSCA.

The ARNG is actively equipping formations with modernized critical water and fuel capabilities to eliminate reliance on legacy systems that have reached EUL. The Load Handling System Compatible Water Tank Rack (HIPPO) and Modular Fuel System Tank Rack Module (MFS-TRM) critical systems offer increased fuel and water capability and capacity while decreasing personnel requirements. The modernized Tactical Water Purification System (TWPS) will provide the ARNG significant field services water purification capability and will reduce reliance on the Reverse Osmosis Water Purification Unit (ROWPU), which is currently the Army’s largest water purification legacy system.

**Investment in New Procurement and Modernization:**

The Army is investing in emerging capabilities that will address aging fleets and enduring equipment within EUL termination. In the current operational environment, the Army is prioritizing modernization and mitigating contested logistics requirement shortfalls.

The ARNG currently operates with over \$38 million worth of obsolete TMDE components. The ARNG combat service support portfolio has been able to utilize NGREA to overcome equipping shortfalls for MSDs, WATs, MFS-TRM, and MTRCS. With sustained POM funding, ARNG is projected to achieve 100 percent of its HIPPO authorization by the end of FY 2028 (Table 2-11).

*Table 2-11. ARNG Top Sustainment Modernization Shortfalls*

Nomenclature	Line Item Number	PUC	Total PUC Cost	Shortfall QTY
Load Handling System Compatible Water Tank Rack (HIPPO)	T32629	\$131K	\$108.5M	828

**j. Combat Service Support Transportation Portfolio**

The ARNG Tactical Wheel Vehicle (TWV) fleet includes Light, Medium, and Heavy Tactical Vehicles with associated trailers, as well as the Mine Resistant Ambush Protected (MRAP) family of vehicles. The TWV fleet’s capabilities are essential to the Army’s mission and reside in almost every formation within the ARNG.

The TWV fleet delivers high tonnages for all classes of supply and transports the heaviest tracked vehicles. The TWV fleet capabilities provide formations extended operational reach, prolonged endurance, and freedom of action critical to survive, sustain, and maneuver during HLD, DSCA and joint MDO.

**Investment in New Procurement and Modernization:**

The Army is investing in TWV modernization, completing safety upgrades, developing hybrid fleets, and maintaining readiness of TWVs that exceed an average 15-year EUL period. Investment in the TWV fleet is critical to modernizing the ARNG into an MDO force. Improved survivability, sustainability, and maneuverability are essential to support enduring operations in an MDO environment. Investment in soldier safety upgrades like anti-lock brake systems/electronic stability control (ABS/ESC) to HMMWVs has reduced the average fleet age. ARNG has improved LTV readiness by divesting older model HMMWVs and procuring new armor capable variants and JLTV.

Current Army investment in the TWV portfolio does not adequately address current and emerging mobility gaps. While next-generation platforms like the Common Tactical Truck (CTT) will replace older model family of vehicles in PLS, Line Haul, and HEMTT, it will not achieve this before some of the TWV fleet CTT replaces exceed their EUL, creating a sustainability gap. The Army’s TWV fleets requires substantial investment to ensure sustainability, deployability, and increased operational readiness.

The Family of Medium Tactical Vehicles (FMTV) A2 will replace the A0 (23 years old) and A1 (18 years old) versions. Divesting older vehicles will reduce sustainment costs by approximately \$1 million per year. FMTV shortages negatively impact ARNG transportation assets in Brigade Combat Teams and formations across all ARNG states and territories required to provide mission-critical assets and sustain forces during homeland operations and MDO (Table 2-12).

*Table 2-12. ARNG Top Modernization Shortfalls*

Nomenclature	Line Item Number	PUC	Total PUC Cost	Shortfall QTY
TRUCK CARGO: M1078 LMTV	Z05606	\$497K	\$556M	1118
TRUCK TRACTOR: M1088A2	Z05597	\$630K	\$309.3M	491

**5. Other: Funding for New and Displaced Equipment Training and NGREA**

New Equipment Training (NET) and Displaced Equipment Training (DET) funds are used to train Soldiers’ competency on equipment fielded to a unit during that year. In FY 2022, the ARNG received \$22.3 million for NET/DET events and activities, a slight decrease from FY 2021. In FY 2023, the ARNG is projected to receive \$21.7 million for NET/DET events and activities, a slight decrease over the previous year. Historically, ARNG has executed all required NET/DET events by leveraging this dedicated funding line and other National Guard Pay and Allowance funding lines. Decreasing funds will

continue to significantly impact unit readiness as the states and territories and the District of Columbia implement ReARMM and increasingly leverage other limited pay and allowance funds to support new equipment training.

The ARNG continues to leverage NGREA funding to mitigate readiness shortfalls in equipment and modernization efforts. These purchases support the ARNG's priority funding areas outside of the normal base budget. In FY 2022, ARNG NGREA funded more than \$285 million in aviation, command and control, communications, engineering, force protection, logistics, maintenance, security, and training systems to support HLD and DSCA missions.

#### **D. Summary**

The ARNG remains fully committed to its role as an Operational Reserve. Interoperable, sustainable, and deployable are the tenets that guide equipment modernization. Under ReARMM, the Army is optimizing constrained resources, ensuring the correct equipment is available to the appropriate formations to fulfill the Army's requirements to the National Defense Strategy. The ARNG is aware displaced equipment cascades are expected to rise and supplement new equipment procurements in the acquisition programs linked to the Army's Cross Functional Teams and signature efforts. However, the ARNG is concerned displaced equipment will result in unforecasted funding requirements and expanding capability gaps as Army Programs continue a rapid technology development path. ARNG stakeholders will continue coordinating to ensure equipment modernization initiatives are nested within the Army's pivot to MDO to fill the Combatant Command requirements as part of the Army Modernization Strategy of 2035.

## Consolidated Major Item Inventory and Requirements

*NOTE: This table provides a comprehensive list of selected major equipment items. It provides the projected inventory quantity on-hand (QTY O/H) at the beginning/end of the selected fiscal year (FY). It also provides the quantity required (QTY REQ) to meet the full wartime requirements of the Reserve Component. In accordance with Title 10, the QTY REQ number provides the recommendation as to the quantity and type of equipment that should be in the inventory of each Reserve Component. FY 2023 unit cost estimates are provided by the Military Departments.*

Nomenclature	Equip No.	Unit Cost	Begin FY 2024 QTY O/H	Begin FY 2025 QTY O/H	Begin FY 2026 QTY O/H	End FY 2026 QTY O/H	End FY 2026 QTY REQ
<b>AIR DEFENSE</b>							
CENTER COMMUNICAT OPERATIONS: AN/TSQ-253(V)5	C17156	\$1,642,106	6	6	6	6	6
CENTER COMMUNICATIONS OPERATIONS: AN/TSQ-253(4)	C77942	\$2,595,824	1	1	1	1	1
COMMAND SYSTM: TACTICAL	C91673	\$1,863,000	62	58	56	56	56
FIRE UNIT VEHICLE MOUNTED: (AVENGER)	F57713	\$732,392	260	260	260	260	260
RAD ST, ENHANCED: AN/MPQ-64A3(V)1	R05014	\$5,000,000	76	72	70	70	70
RADIO SET: AN/USQ-140(V)2(C)	R42399	\$300,000	72	72	72	72	111
<b>AIRCRAFT</b>							
AIRPLANE CARGO-TRAN: C-12F	A30062	\$8,000,000	48	48	48	48	48
CH-47F IMPROVED CARGO HELICOPTER:	C15172	\$30,000,000	156	156	156	156	156
HELICOPTER LIGHT UTILITY (LUH) UH-72A:	H31329	\$5,393,572	192	192	192	192	192
HELICOPTER UTILITY: UH-60L	H32361	\$7,908,000	411	411	411	411	411
HELICOPTER UTILITY: UH-60M	H32429	\$21,812,860	330	330	330	330	330
HELICOPTER, ADVANCE ATTACK, AH-64E	H05006	\$29,715,500	24	48	72	72	72
HELICOPTER: ATTACK AH-64D	H48918	\$0	72	48	24	24	24
MEDEVAC HELICOPTER: HH-60M	M33458	\$18,300,000	120	120	120	120	120
SMALL UNMANNED AIRCRAFT SYSTEM (SUAS): RAVEN B (MIP)	S83835	\$168,000	826	815	805	805	805
TERMINAL VIDEO MULTIFUNCTIONAL REMOTE UAS: AN/USQ-210	T81951	\$448,000	1310	1313	1313	1313	1313
UNMANNED AIRCRAFT RQ-7BV2	U05012	\$2,864,373	118	118	118	118	118
<b>AVIATION</b>							
COMMAND SYSTEM: TACTICAL AN/TSQ-221	C61597	\$3,000,000	24	24	24	24	24
COMPUTER SYS: DIGITAL	C18391	\$9,530	911	915	917	917	917
MOBILE TOWER SYSTEM: (MOTS)	M05009	\$900,000	16	16	16	16	16



**Consolidated Major Item Inventory and Requirements**

Nomenclature	Equip No.	Unit Cost	Begin FY 2024 QTY O/H	Begin FY 2025 QTY O/H	Begin FY 2026 QTY O/H	End FY 2026 QTY O/H	End FY 2026 QTY REQ
RADAR SET: AN/TPN31	R17126	\$7,637,429	16	16	16	16	16
TEST SET: PITOT AND STATIC SYSTEMS	T03597	\$66,784	158	158	158	158	158
TEST STAND ENGINE: SEMITRAILER - MTD ACFT DIAGNOSTICS FLEX ENG	T00229	\$6,000,000	4	4	4	4	4
TOOL KIT AIRCRAFT MAINTENANCE MOS 15Y:	W59034	\$6,146	244	244	244	244	244
TOOL SET AVIATION UNIT MAINTENANCE: SET NO 2 AIRMOBILE	W60206	\$389,000	41	41	41	41	41
UH-60 KIT AEROMEDICAL EVACUATION:	K40878	\$169,305	195	195	195	195	195
<b>BATTLE CMD C2</b>							
COMPUTER SET, DIGITAL (JBC-P): AN/UYK-128B(V)3	C05036	\$21,706	16700	19669	21868	21868	21868
COMPUTER SET: DIGITAL (JBC-P LOG) AN/UYQ-90B(V)4	C05055	\$8,342	4416	4871	4810	4810	4810
COMPUTER SET: DIGITAL (JBC-P LOG) AN/UYQ-90B(V)5	C05054	\$19,997	554	670	681	681	681
COMPUTER SET: DIGITAL (JBC-P) AN/GYK-62G	C05037	\$16,000	1002	1134	1159	1159	1159
DISTRIBUTION SYSTEM ELEC: 120/208V 3PH 40AMP	F55485	\$6,258	1481	1501	1511	1511	1511
DISTRIBUTION SYSTEM ELEC: 120V 1PH 60AMP	F55553	\$4,901	2212	2196	2188	2188	2188
FEEDER SYSTEM ELECTRICAL: 3PH 100 AMP	F55621	\$5,799	455	453	461	461	461
FEEDER SYSTEM ELECTRICAL: 3PH 200 AMP	F55689	\$11,502	96	98	99	99	99
GEN SET DED TM: 10KW 60HZ MTD ONM116A2 PU-798	G42170	\$25,757	823	763	639	639	639
GEN SET DED TM: 5KW 60HZ MTD ON M116A2 PU-797	G42238	\$23,738	517	461	360	360	360
GEN SET DID 5KW 50/60HZ: SKID-MTD	G42488	\$21,771	510	679	724	724	724
GEN SET: DED SKID MTD 10KW 60HZ	G74711	\$10,700	1025	925	764	764	764
GEN SET: DED SKID MTD 15KW 50/60HZ	G12170	\$26,334	182	181	183	183	183
GEN SET: DED SKID MTD 5KW 60HZ	G11966	\$12,798	1511	1306	1244	1244	1244
GEN ST D 10KW 400HZ: SKID-MTD	G75018	\$28,549	67	63	61	61	61
GEN ST DE 30KWW 50/60HZ: SKID-MTD	G75200	\$30,074	78	78	78	78	78

**Consolidated Major Item Inventory and Requirements**

Nomenclature	Equip No.	Unit Cost	Begin FY 2024 QTY O/H	Begin FY 2025 QTY O/H	Begin FY 2026 QTY O/H	End FY 2026 QTY O/H	End FY 2026 QTY REQ
GEN ST DED15KWW 50/60HZ: SKID-MTD	G49966	\$26,412	181	183	183	183	183
GENERATOR SET DIESEL ENGINE TM: PU-802	G53778	\$31,481	606	611	611	611	611
GENERATOR SET DIESEL ENGINE TM: PU-803	G35851	\$38,418	104	105	104	104	104
GENERATOR SET: DIESEL TRL/MTD 60KW 50/60HZ PU805 CHASSIS W/FENDE	G78306	\$44,185	100	100	101	101	101
GN ST DED 10KW 50/60HZ: SKID-MTD	G07461	\$24,676	863	965	1130	1130	1130
LTT TRAILER-MTD: PP-3001/5 KW/50/60 HZ	L27002	\$19,177	14	14	16	16	16
LTT TRAILER-MTD: PU-2001/5 KW/50/60 HZ	L26934	\$25,135	609	625	677	677	677
LTT TRAILER-MTD: PU-2002/10 KW/50/60HZ	L84622	\$19,177	678	680	745	745	745
LTT TRAILER-MTD: PU-2012/10 KW/400HZ	L84758	\$45,443	5	5	5	5	5
NAVIGATION SET: SATELLITE SIGNALS AN/GSN-13	N96180	\$39,152	0	0	0	0	3
NETT WARRIOR SYSTEM	N05004	\$4,851	684	684	684	684	684
POWER PLANT ELEC DED TM: 5KW 60HZ AN/MJQ-35	P28083	\$46,322	2	2			1
POWER PLANT: DIESEL TRL/MTD 10KW60HZ AN/NJQ-37	P42262	\$50,294	1	1	1	1	28
POWER PLANT: ELECTRIC TRAILER MTD 30KW 50/60HZ AN/MJQ 40	P42126	\$85,594	26	28	28	28	173
TRAILER-MTD: PP-3102/10 KW/50/60HZ/M200A1	T39849	\$72,145	145	145	145	145	65
TRAILER-MTD: PP-3105/30 KW/50/60 HZ 2M200A1	T39917	\$47,007	61	61	65	65	172
TRAILER-MTD: PP-3106/60 KW/50/60 HZ/2M200A1	T93232	\$85,199	137	137	136	136	577
TRAILER-MTD: PU-2101/15 KW/50/60 HZ/M200A1	T40090	\$44,157	583	578	577	577	196
TRAILER-MTD: PU-2102/30 KW/50/60 HZ/M200A1	T39954	\$41,800	200	197	196	196	55
TRAILER-MTD: PU-2103/60 KW/50/60 HZ/M200A1	T60034	\$40,914	56	56	55	55	193
UTILITY RECEPTACLE:	U89185	\$3,638	3687	3720	3736	3736	99
<b>BATTLESPACE AWARENESS</b>							

**Consolidated Major Item Inventory and Requirements**

Nomenclature	Equip No.	Unit Cost	Begin FY 2024 QTY O/H	Begin FY 2025 QTY O/H	Begin FY 2026 QTY O/H	End FY 2026 QTY O/H	End FY 2026 QTY REQ
CENTRAL: COMMUNICATIONS AN/TSQ-226(V)1	C43263	\$535,000	8	8	8	8	8
CENTRAL: COMMUNICATIONS AN/TSQ226(V)2	C43331	\$800,000	2				
CENTRAL: COMMUNICATIONS AN/TSQ-226(V)3	C43399	\$1,880,000	47	47	47	47	55
COMPUTER SYSTEM: DIGITAL AN/PYQ-3	C18312	\$50,000	445	444	443	443	494
COMPUTER: SYSTEM DIGITAL AN/PYQ-8	C77823	\$5,000	171	139	139	139	139
DATA ANALYSI CENTRAL: AN/MSW-24	D77801	\$1,100,000	27	27	27	27	27
DETECTING SYSTEM COUNTRMEASURES: AN/MLQ-40(V)4	D04182	\$1,100,000	69	64	65	65	97
GROUND STATION, TACTICAL INTELLIGENCE: AN/TSQ-179	T37036	\$5,000,000	39	39	40	40	41
PROCESSING CENTER, INTELLIGENCE VERSION 2: AN/TYQ-103(V)	C18176	\$1,200,000	37	39	41	41	41
SERVER, INTELLIGENCE FUSION: AN/TYQ-94(V)2	A35397	\$56,000	313	303	304	304	304
WORKSTATION, GEOSPATIAL INTELLIGENCE: AN/TYQ-71(V)	D11498	\$250,000	237	119	119	119	119
WORKSTATION, PORTABLE MULTIFUNCTION: AN/TYQ-93(V)	A35329	\$4,000	2381	2379	2449	2449	2449
<b>BATTLE COMMAND TRANSPORT NETWORKS</b>							
COMMUNICATION SYSTEM: AN/MRC-150	C05023	\$1,850,000	1	1	1	1	1
TRANSPORTABLE TACTICAL COMMAND COMMUNICATIONS HEAVY V2	T05073	\$503,294	39	39	39	39	39
TRANSPORTABLE TACTICAL COMMAND COMMUNICATIONS LITE V1	T05071	\$1,160,673	68	68	68	68	68
<b>CBT MOBILITY</b>							
ANTI-PERSONNEL MINE CLEARING SYSTEM: REMOTE CONTROL (M160)	A05002	\$355,000	26	26	26	26	26
ASSAULT BREACHER VEHICLE: (ABV)	A05001	\$5,200,583	30	30	30	30	30
BRIDGE ARMOR VEH LAUNCH SCISSOR TY: CL 60 ALUM 60 FT LG OF SPAN	C20414	\$87,742	12	6			8
BRIDGE FIXED: RAPIDLY	B24592	\$975,000	8	8	8	8	140

## Consolidated Major Item Inventory and Requirements

Nomenclature	Equip No.	Unit Cost	Begin FY 2024 QTY O/H	Begin FY 2025 QTY O/H	Begin FY 2026 QTY O/H	End FY 2026 QTY O/H	End FY 2026 QTY REQ
BRIDGE, HEAVY ASSAULT SCISSORING	B31098	\$304,952	80	82	83	83	26
DETECTING SET MINE: PTBL METALLIC (AN/PSS-11)	G02341	\$2,450	208	195	197	197	34
DETECTING SET: MINE AN/PSS-14	D03932	\$19,300	3225	3129	3085	3085	1447
DETECTING SET: MINE AN/PSS-14C	D05016	\$14,000	752	1231	1231	1231	108
HIGH MOBILITY ENGINEER EXCAVATOR (HMEE): TYPE I	H53576	\$185,000	501	526	526	526	122
INSTRUMENT SET RECONNAISSANCE AND SURVEYING: AN/TKQ-5	D17191	\$62,000	1135	1142	1164	1164	330
LAUNCH M60 SERIES TANK CHASS TRNSPTG: 40 AND 60 FT BRDGE TY CL60	L43664	\$527,126	66	64	48	48	44
LOADER SCOOP TYPE: 2.5 CUBIC YARD	L76897	\$99,516	111	111	111	111	41
LOADER SCOOP TYPE: DSL 2-1/2CU YD HINGE FRME W/MULTI PURP BUCKET	L76556	\$92,895	41	41	41	41	111
MINE PROTECTED CLEARANCE VEHICLE:	M05004	\$971,923	78	78	78	78	95
MINE RESISTANT VEHICLE:	M74226	\$540,000	95	95	95	95	8
SOF DEMOLITION KIT: M303	S93791	\$30,710	343	331	322	322	6
SUPPLEMENTARY SET BRIDGE:	U60216	\$90,852	16	16	16	16	2
TOOL KIT: URBAN OPS	T30195	\$76,364	726	714	696	696	18
TRACTOR WHEELED: INDUSTRIAL	T34505	\$78,000	194	194	194	194	28
TRANSPORTER COMMON BRIDGE:	T91308	\$226,150	616	616	616	616	8
URBAN OPERATIONS: PLATOON KIT	U88092	\$177,553	496	485	470	470	156
VEHICLE MOUNTED MINE DETECTION (VMMD) SYS:	V05001	\$804,387	156	156	156	156	73
<b>FIELD LOG</b>							
ARMAMENT REPAIR SHOP SET (ARSS):	A05031	\$400,000	82	88	88	88	88
ASSAULT KTCHN: (AK)	A94943	\$65,000	702	714	714	714	714
CALIBRATION SET SECONDARY TRANSFER STANDARDS	C72574	\$985,378	11	11	11	11	16
CALIBRATION SET: AN/GSM-439	T05046	\$151,469	14	15	16	16	16
CALIBRATION SET: AN/GSM-440	T05045	\$1,087,000	14	15	15	15	16
FORWARD AREA WATER POINT SUPPLY SYSTEM: (FAW SS)	F42612	\$46,879	46	46	46	46	46

**Consolidated Major Item Inventory and Requirements**

Nomenclature	Equip No.	Unit Cost	Begin FY 2024 QTY O/H	Begin FY 2025 QTY O/H	Begin FY 2026 QTY O/H	End FY 2026 QTY O/H	End FY 2026 QTY REQ
HYDRAULIC SYS TEST AND REPAIR UNIT (MX3):	H05002	\$153,417	242	235	229	229	229
KITCHEN: COMPANY LEVEL FIELD FEEDING	K28601	\$31,250	12				3
LIGHT CAPABILITY ROUGH TERRAIN FORKLIFT (LCRTF): 5K	L05010	\$74,750	466	466	460	460	1200
LOAD HANDLING SYS (LHS): 2000 GAL COMP WATER TANK-RACK (HIPPO)	T32629	\$130,293	635	775	913	913	399
MACHINIST'S MEASURING TOOL SET: MMTS	M20190	\$5,492	976	976	976	976	32
MAINTENANCE SUPPORT DEVICE:	T92889	\$22,901	874	907	932	932	7
MODULAR FUEL SYSTEM-TANK RACK MODULE WITH RETAIL CAPABILITY	T20131	\$78,038	1440	1422	1403	1403	158
PETROLEUM QUALITY ANALYSIS SYSTEM: ENHANCED (PQAS-E)	P25743	\$1,770,000	18	18	18	18	22
TEST KIT MASK PROTECTIVE: M41	T62350	\$7,000	1017	325	297	297	1
TRAILER TANK WATER (CAMEL): 800 GAL 5 TON W/E	T05047	\$106,532	184	184	184	184	66
WATER PURIFICATION: REVERSE OSM-OSIS 3000 GPH TRAILER MOUNTED	W47225	\$748,000	72	72	72	72	70
<b>FORCE PROTECTION</b>							
ALARM BIOLOGICAL AGENT AUTOMATIC: (BIDS) M31A2	A48680	\$1,118,000	98	98	98	98	98
DECONTAMINATING APPARATUS POWER DRIVEN SKID MOUNTED: MULTIPURPOSE	F81880	\$29,500	84	84	84	84	84
JOINT SERVICE: TRANSPORTABLE DECONTAMINATION	J01197	\$29,750	1455	1451	1451	1451	1451
NUCLEAR BIO CHEM RECON VEH: (NBC RV)	N96543	\$4,465,407	68	68	68	68	68
<b>GEN ENGINEERING</b>							
COMPACTOR HIGH SPEED: TAMPING SELF-PROPELLED (CCE)	E61618	\$171,438	62	62	62	62	62
CRANE WHEEL MTD: HYDRAULIC LIGHT 7-1/2 TON W/CAB	C36151	\$58,481	141	141	141	141	141
CRANE: WHEEL MOUNTED HYDRAULIC 25 TON ALL TERRAIN AT422T	C36586	\$313,521	127	132	137	137	137

**Consolidated Major Item Inventory and Requirements**

Nomenclature	Equip No.	Unit Cost	Begin FY 2024 QTY O/H	Begin FY 2025 QTY O/H	Begin FY 2026 QTY O/H	End FY 2026 QTY O/H	End FY 2026 QTY REQ
CRUSH SCREEN AND WASH PLANT: DSL/ELEC DRVN WHL MTD 150-225 TPH	F49673	\$1,543,579	7	7	7	7	7
EXCAVATOR: HYDRAULIC (HYEX) TYPE I MULTIPURPOSE CRAWLER MOUNT	E27792	\$242,636	194	194	194	194	194
EXCAVATOR: HYDRAULIC (HYEX) TYPE II MLTIPURPOSE CRAWLER MOUNT	E41791	\$435,755	7	7	7	7	7
EXCAVATOR: HYDRAULIC (HYEX) TYPE III MULTIPURPOSE CRAWLER MOUNT	E27860	\$259,667	7	7	7	7	7
HYDRAULIC ELECTRIC PNEUMATIC PETROLEUM OPERATED EQUIP: (HEPPOE)	H05004	\$230,000	415	415	415	415	415
MIXER CONCRETE MODULE: PLS 2600 GALLON	M81382	\$127,160	39	39	39	39	39
ROLLER MOTORIZED STEEL WHEEL: 2 DRUM TANDEM 10-14 TON (CCE)	S11711	\$82,595	16	16	16	16	16
ROLLER MOTORIZED: VIBRATORY ROLLER TYPE II	R11127	\$60,230	211	211	211	211	211
SCRAPER EARTHMOVING: 14-18 CU YD	S05029	\$796,100	298	298	298	298	298
SCRAPER ELEVATING: SELF PROPELLED 9-11 CU YD SECTIONALIZED	S30039	\$324,218	132	132	132	132	132
TACTICAL WATER DISTRIBUTION EQUIP SET: (TWDS-RDF)	T09094	\$660,000	4	4	4	4	4
TRACTOR FL TRKD: LOW SPD - T9 TYPE II W/RIPPER	T05016	\$254,383	232	255	272	272	272
TRACTOR FL TRKD: LOW SPD T-5 TYPE II W/RIPPER	T05026	\$188,638	72	72	72	72	72
TRACTOR FULL TRACKED HIGH SPEED: DEPLOYABLE LT ENGINEER (DEUCE)	T76541	\$432,799	124	124	124	124	124
TRACTOR FULL TRCKD LOW SPD: DSL MED DBP W/BULDOZ W/SCARIF RIPPER	W83529	\$87,683	13	19	23	23	23
TRACTOR FULL TRCKD LOW SPD: DSL MED DBP W/BULDOZ W/SCARIF WINCH	W76816	\$90,375	6	7	7	7	7
TRACTOR FULL TRCKD LOW SPD: T5	T05029	\$199,262	68	68	68	68	68

**Consolidated Major Item Inventory and Requirements**

Nomenclature	Equip No.	Unit Cost	Begin FY 2024 QTY O/H	Begin FY 2025 QTY O/H	Begin FY 2026 QTY O/H	End FY 2026 QTY O/H	End FY 2026 QTY REQ
TRACTOR FULL TRCKD LOW SPD: T9	T05015	\$259,683	233	243	252	252	252
<b>MANEUVER CBT VEH</b>							
ANTI-TANK GUIDED MISSILE VEH: (ATGM)	A83852	\$4,669,225	18	16	14	14	14
CARRIER 120 MILLIMETER MORTAR: SELF PROPELLED ARMORED	C10990	\$318,308	90	90	90	90	90
CARRIER ARMORED COMMAND POST: FULL TRACKED	C11158	\$374,086	395	394	392	392	392
CARRIER CARGO TRACKED: 1.5T M973	C11280	\$125,969	12	12	12	12	12
CARRIER COMMAND COMMUNICATION VEHICLE: ARTICULATED TRKD 1-1/2 T	C11651	\$209,490	4	4	4	4	4
CARRIER COMMAND POST: LIGHT TRACKED	D11538	\$345,787	46	46	45	45	45
CARRIER PERSONNEL FULL TRACKED: ARMORED (RISE)	C18234	\$405,815	498	473	426	426	426
COMMAND VARIANT VEH: (CV)	C41314	\$2,624,308	64	64	64	64	64
ENGINEER SQUAD VEHICLE: (ESV)	J97621	\$3,839,417	24	24	24	24	24
FIGHTING VEHICLE: FULL TRACKED INFANTRY (IFV) M2A3	F60564	\$4,409,064	375	375	375	375	375
FIRE SUPPORT VEHICLE: (FSV)	F86821	\$3,070,668	26	26	26	26	26
INFANTRY CARRIER: VEHICLE (ICV)	J22626	\$2,910,189	260	260	260	260	260
KNIGHT: ARMORED	K29708	\$1,718,004	60	60	60	60	60
MEDICAL EVACUATION VEHICLE: (MEV)	M30567	\$2,231,792	54	54	54	54	54
MORTAR CARRIER VEHICLE: (MCV)	M53369	\$2,859,036	72	72	72	72	72
OPERATION DESERT STORM (ODS) SITUATIONAL AWARENESS (SA): M2A2	P19727	\$2,300,000	250	250	250	250	250
RECONNAISSANCE VEH: (RV)	R62673	\$2,803,780	114	114	114	114	114
RECOVERY VEHICLE FULL TRACKED: HEAVY M88A2	R50885	\$4,022,474	205	202	199	199	199
RECOVERY VEHICLE FULL TRACKED: MEDIUM	R50681	\$1,210,755	102	101	99	99	99
TANK COMBAT FULL TRACKED: 120 MILLIMETER GUN	T13168	\$2,393,439	174	174	130	130	130
TANK COMBAT FULL TRACKED: 120MM GUN M1A2	T13305	\$4,445,399	174	174	174	174	174
<b>MANEUVER SYSTEMS</b>							

**Consolidated Major Item Inventory and Requirements**

Nomenclature	Equip No.	Unit Cost	Begin FY 2024 QTY O/H	Begin FY 2025 QTY O/H	Begin FY 2026 QTY O/H	End FY 2026 QTY O/H	End FY 2026 QTY REQ
SURVEILLANCE SYSTEM: SCOUT LONG RANGE AN/TAS-8	S02976	\$400,000	737	737	737	737	737
TARGET ACQUISITION SYSTEM: TOW IMPROVED ITAS M41	T24690	\$970,000	720	720	720	720	720
<b>MEDICAL FIELD SYSTEMS</b>							
ANALYZER BLOOD: (AB)	A83359	\$14,153	205	205	205	205	205
AUTOMATIC EXTERNAL DEFIBRILLATOR (AED) :	A05034	\$2,621	493	495	496	496	496
COMPUTER SET: DIGITAL AN/TYQ-106(V)1	C18345	\$1,300	887	891	893	893	893
COMPUTER SET: DIGITAL AN/TYQ-107(V)1	C18277	\$1,300	177	178	178	178	178
COMPUTER SYSTEM: DIGITAL AN/TYQ-108(V)3	C27639	\$1,300	429	425	425	425	477
DEFIBRILLATOR MONITOR RECORDER: 120/230V 50/60HZ AC OR DC	D86072	\$52,400	824	824	824	824	824
DENTAL FIELD TREATMENT OPERATING SYSTEM	D44052	\$45,066	62	62	62	62	62
DENTAL FILMLESS IMAGING SYSTEM (DFIS):	D44302	\$17,239	69	69	69	69	69
ELECTROCARDIOGRAPH: SOLID STATE AMPLIFIER PORT115V 60HZ AC	E17591	\$10,470	72	72	72	72	72
MEDICAL EQUIPMENT SET AIR AMBULANCE:	M29213	\$79,847	315	315	315	315	315
MEDICAL EQUIPMENT SET TACTICAL COMBAT MEDICAL CARE:	M30499	\$192,095	892	896	898	898	898
MEDICAL EQUIPMENT SET WATER QUAL ANALYSIS PREVENTIVE MEDICINE:	Y36849	\$22,523	50	50	50	50	50
MEDICAL FILMLESS IMAGING SYS:	M30817	\$148,740	76	76	76	76	76
MONITOR PATIENT VITAL SIGNS: (MVS)	M66626	\$21,474	311	311	311	311	311
OXYGEN GENERATOR: FIELD PORTABLE (OGFP)	P05027	\$4,437	1165	1165	1165	1165	2638
PUMP INTRAVENOUS INFUSION PIV:	P16161	\$11,405	886	886	886	886	886
REFRIGERATOR SOLID STATE BIO:	R64126	\$13,760	181	181	181	181	181
SINK UNIT SURGICAL SCRUB AND UTENSIL HOSPITAL FIELD: 110V 60C AC	T60464	\$7,764	140	140	140	140	140



**Consolidated Major Item Inventory and Requirements**

Nomenclature	Equip No.	Unit Cost	Begin FY 2024 QTY O/H	Begin FY 2025 QTY O/H	Begin FY 2026 QTY O/H	End FY 2026 QTY O/H	End FY 2026 QTY REQ
STERILIZER SURG INSTR DRESS: PRES EXTR HTDCRS 12-1/2 BY 12-1/2IN	U39016	\$781	134	134	134	134	134
ULTRA SOUND DIAGNOSTIC SYSTEM: HAND-CARRIED	U26813	\$88,502	9	9	9	9	9
VENTILATOR VOLUME PTBL:	V99788	\$27,484	680	680	680	680	680
X-RAY: APPARATUS DEN	X38819	\$7,774	67	67	67	67	67
<b>ROBOTICS</b>							
MAN TRANSPORTABLE ROBOTIC SYS (MTRS) MK I:	M05002	\$182,154	9	9	9	9	9
<b>SOLDIER SYSTEMS</b>							
ILLUMINATOR INTEGRATED: SMALL ARMS STORM MLRF	J68653	\$13,090	5260	5260	5260	5260	5260
LASER: TARGET LOCATOR MODULE	L05003	\$67,222	3681	2859	2566	2566	2566
MANEUVERABLE CANOPY 6 (MC 6): PERSONNEL PARACHUTE SYSTEM	A46878	\$4,596	7866	7866	7866	7866	7866
MILITARY: FREEFALL ADVANCED RAM AIR PARACHUTE SYSTEM	M05026	\$13,500	633	633	633	633	633
<b>SOLDIER WPNS</b>							
CARBINE 5.56 MILLIMETER: M4A1	C06935	\$653	257386	257269	257526	257526	257526
RIFLE 5.56 MILLIMETER: M16A2	R95035	\$749	440	440	440	440	440
RIFLE RECOILLESS: 84MM (MAAWS)	R45101	\$16,642	202	202	202	202	202
<b>STRIKE</b>							
A3 BFIST: W/FS3	A70576	\$1,500,000	65	65	65	65	65
HIGH MOBILITY ARTILLERY ROCKET SYSTEM: HIMARS	H53326	\$5,033,000	192	192	192	192	192
HOWITZER LT TOWED: M119A3	H05007	\$1,400,000	240	240	240	240	240
HOWITZER MEDIUM SELF PROPELLED:	H57642	\$1,435,000	234	222	210	210	210
HOWITZER MEDIUM TOWED: M777	H57916	\$2,500,000	240	240	240	240	240
LIGHTWEIGHT COUNTER MORTAR RADR: AN/TPQ-50	L05007	\$1,203,140	134	138	140	140	140
MULTIPLE LAUNCH ROCKET SYSTEM: (MLRS) M270A1 IMPROVED LAUNCHER	M82581	\$5,353,000	44	34	34	34	54
RADAR SET: AN/TPQ-36(V)10	R14284	\$7,977,850	5	5	5	5	5
RADAR SYSTEM: COUNTER FIRE TARGET ACQUISITION RADAR	R05016	\$14,231,348	75	78	76	76	81
<b>SUPPORT SYSTEMS</b>							

**Consolidated Major Item Inventory and Requirements**

Nomenclature	Equip No.	Unit Cost	Begin FY 2024 QTY O/H	Begin FY 2025 QTY O/H	Begin FY 2026 QTY O/H	End FY 2026 QTY O/H	End FY 2026 QTY REQ
CONTAINER HANDLING:	C27294	\$40,165	31	158	158	158	158
CONTAINER HANDLING: CONTAINER HANDLING UNIT (CHU)	C84862	\$34,613	80				
CONTAINER HANDLING: HEAVY EXP MOBIL TACT TRK (HEMTT)	C84930	\$39,150	4				
FIRING DEVICE DEMOLITION: MK152 MOD 0	F60336	\$18,000	366	354	341	341	341
JOINT PRECISION AIRDROP SYSTEM: (JPADS) 10K	J05004	\$81,000	34	34	34	34	34
PLATFORM: CONTAINER ROLL IN/ROLL OUT	B83002	\$8,250	16158	16626	16638	16638	17455
<b>TRAILERS</b>							
PALLETIZED LOAD SYSTEM: TRAILER-CTE	P05025	\$55,131	675	675	675	675	675
SEMITRAILER FLAT BED: BREAKBULK/CONT TRANSPORTER 22 1/2 TON	S70027	\$33,156	3399	3398	3397	3397	3397
SEMITRAILER FLATBED: BREAKBULK/CONTAINER TRANSPORTER CMRCIAL 34T	S70159	\$105,069	3662	3677	3712	3712	3960
SEMITRAILER LOW BED: 25 TON 4 WHEEL W/E	S70517	\$179,778	179	195	195	195	469
SEMITRAILER LOW BED: 40 TON 6 WHEEL W/E	S70594	\$51,900	1237	1259	1277	1277	1277
SEMITRAILER LOW BED: 70 TN HEAVY EQUIPMENT TRANSPORTER (HET)	S70859	\$229,219	438	438	438	438	438
SEMITRAILER TANK: 5000 GAL BULK HAUL SELF-LOAD/UNLOAD W/E	S10059	\$77,550	300	240	240	240	240
SEMITRAILER TANK: 5000 GAL FUEL DISPENSING AUTOMOTIVE W/E	S73372	\$97,413	139	139	139	139	139
TRAILER CARGO: 1-1/2 TON 2 WHEEL W/E	W95811	\$10,245	63	58	46	46	46
TRAILER CARGO: MTV W/DROPSIDES M1095	T95555	\$45,000	6074	6095	6106	6106	6106
TRAILER: PALLETIZED LOADING 8X20	T93761	\$88,639	5520	5501	5478	5478	5478
<b>TRUCKS</b>							
M-ATV UI W/CROW SYSTEM:	M05029	\$0	496	496	496	496	496
M-ATV UI W/OGPK:	M05030	\$0	1393	1409	1425	1425	1425
TRACTOR LIN HAUL: M915A5	T88858	\$0	1059	1059	1059	1059	1860

## Consolidated Major Item Inventory and Requirements

Nomenclature	Equip No.	Unit Cost	Begin FY 2024 QTY O/H	Begin FY 2025 QTY O/H	Begin FY 2026 QTY O/H	End FY 2026 QTY O/H	End FY 2026 QTY REQ
TRUCK AMBULANCE: 4 LITTER ARMD 4X4 W/E (HMMWV)	T38844	\$294,867	1632	1638	1641	1641	1641
TRUCK CARGO: 2 1/2 TON 4X4 LMTV W/E W/W LAPES/AD	T42063	\$119,166	8	8	8	8	8
TRUCK CARGO: 4X4 LMTV W/E	T60081	\$176,428	2426	2458	2474	2474	2474
TRUCK CARGO: 5 TON 6X6 MTV W/E LAPES/AD	T41036	\$118,579	83	77	77	77	101
TRUCK CARGO: 5 TON 6X6 MTV W/E W/W LAPES/AD	T41104	\$119,265	13	13	13	13	15
TRUCK CARGO: 5 TON WO/WINCH	T41515	\$205,000	5347	5521	5512	5512	6617
TRUCK CARGO: HEAVY PLS TRANSPORTER 15-16.5 TON 10X10	T40999	\$360,139	522	565	568	568	568
TRUCK CARGO: HEAVY PLS TRANSPORTER 15-16.5 TON 10X10 W/MHE W/E	T41067	\$288,015	41	41	41	41	41
TRUCK CARGO: MTV W/E	T61908	\$184,333	407	441	445	445	445
TRUCK CARGO: MTV W/E W/W	T41135	\$182,089	215	234	235	235	235
TRUCK CARGO: W/MHE WO/WINCH	T59584	\$280,000	621	621	621	621	759
TRUCK CARGO: WO/WINCH	T59448	\$185,000	4124	4364	4398	4398	4637
TRUCK DUMP: 10 TON WO/WINCH	T65342	\$240,000	1037	991	955	955	955
TRUCK DUMP: 20 TON DSL DRVN 12 CU YD CAP (CCE)	X44403	\$211,764	597	597	597	597	597
TRUCK DUMP: MTV W/E	T64911	\$209,309	2				
TRUCK PALLETIZED LOADING: M1074A1	T55236	\$986,000	141	141	141	141	235
TRUCK TRACTOR: (LET)	T60946	\$491,000	1254	1290	1307	1307	1307
TRUCK TRACTOR: LET 6X6 66000 GVW W/W C/S	T91656	\$166,223	44	29	30	30	30
TRUCK TRACTOR: LINE HAUL C/S 50000 GVWR 6X4 M915	T61103	\$162,968	180	180	180	180	180
TRUCK TRACTOR: M1070A1	T05012	\$550,000	438	438	438	438	438
TRUCK TRACTOR: MTV W/E	T61239	\$167,746	434	421	417	417	417
TRUCK TRACTOR: MTV W/E W/W	T61307	\$175,733	88	60	46	46	46
TRUCK TRACTOR: WO/WINCH	T88983	\$205,000	2494	2494	2494	2494	2593
TRUCK UTILITY: ECV ARMAMENT CARRIER W/IAP ARMOR READY M1151A1	T34704	\$216,297	5306	5351	5420	5420	5420
TRUCK WRECKER:	T94671	\$480,000	663	659	659	659	659

**Consolidated Major Item Inventory and Requirements**

Nomenclature	Equip No.	Unit Cost	Begin FY 2024 QTY O/H	Begin FY 2025 QTY O/H	Begin FY 2026 QTY O/H	End FY 2026 QTY O/H	End FY 2026 QTY REQ
TRUCK WRECKER: M984A4	T63161	\$963,000	863	861	858	858	1016
TRUCK WRECKER: MTV W/E W/W	T94709	\$331,680	20	22	22	22	22
TRUCK WRECKER: TACTICAL 8X8 HEAVY EXPANDED MOBILITY W/WINCH	T63093	\$503,382	53	53	53	53	53
TRUCK: M1120A4 WITH ECHU	T05061	563000	445	445	445	445	534
TRUCK: PALLETIZED LOADING	T81874	\$628,000	661	587	705	705	773

### Average Age of Equipment

*NOTE: This table provides the average age of selected major equipment items. The average age provides a projected average age of the fleet at the start of FY 2023. Age does not reflect Sustainment efforts to extent useful life of systems or depot rebuild efforts due to lack of data available in updated enterprise databases. HQDA G4/ AMC LDAC are working to retrieve data elements to re-establish database capability to provide accurate record of Age of Equipment.*

Nomenclature	Equip No.	Average Age	Remarks
<b>Aircraft</b>			
Helicopter Cargo Transport: CH-47D	H30517	10	
Helicopter Light Utility (LUH): UH-72A	H31329	10	Reassessment based on UH-72B fielding
Helicopter Utility: UH-60L	H32361	30	Past EUL
Helicopter Utility: UH-60M	H32429	15	
Helicopter Attack: AH-64D	H48918	18	
Helicopter Utility: UH-60A	K32293	39	Past EUL; Fleet being Divested
Airplane Cargo Transport: C-12D	A29812	38	Past EUL
Airplane: Cargo Transport C-26	A46758	29	Past EUL
Airplane: Cargo Transport	BA108Q	29	Past EUL
<b>Aviation</b>			
Aviators Night Vision Imaging System: AN/AVS-6(V)1	A06352	19	Past EUL
<b>Battle Command and Control (C2)</b>			
Generator Set: DED Skid-mtd 5kW 60Hz	G11966	18	EUL
Generator Set: DED TM PU-803	G35851	18	EUL
Generator Set: DED: 60Hz AC MEP-531A	G36237	20	Past EUL
Generator Set: DED TM 10kW 60Hz	G42170	18	EUL
Generator Set: DED TM 5kW 60Hz	G42238	17	
Generator Set: DED Trailer-mtd (TM) PU-802	G53778	17	
Generator Set: DED Skid-mtd 10kW 60Hz	G74711	16	
Generator Set: DED TM 60kW 50/60Hz PU805 Chassis	G78306	21	Past EUL
Generator Set: DED TM 15kW 60Hz	G78374	17	
Power Plant: Electric TM 30kW 50/60Hz AN/MJQ-40	P42126	18	EUL
Power Plant: Diesel TM 10kW 60Hz AN/NJQ-37	P42262	21	Past EUL
<b>Combat Mobility</b>			
Boat Bridge Erection Inboard Engine: Shallow Draft	B25476	26	Past EUL
Cradle: Improved Boat (IBC) M14	C33925	17	
Interior Bay Bridge Floating	K97376	19	Past EUL
Launch M60 Series Tank Chassis Transpt: 40/60ft Bridge	L43664	37	Past EUL
Loader Scoop Type: DSL 2-1/2 cu yd w/Multi Purp Bucket	L76556	37	Past EUL
Pallet: Bridge Adapter (BAP) M15	P78313	15	
Ramp Bay Bridge Floating	R10527	20	Past EUL
Tractor Wheeled: DSL w/Excavator & Front Loader	T34437	33	Past EUL
Transporter Common Bridge	T91308	21	Past EUL
Tractor FT HS: Armored Combat Earthmover (ACE)	W76473	30	Past EUL
<b>Field Logistics</b>			
Containerized Kitchen (CK)	C27633	14	
Truck Lift Fork: Variable Reach Rough Terrain	T73347	14	
Water Purification: Reverse Osmosis 3Kgph TM	W47225	27	Past EUL

# ARNG Average Age of Equipment

Table 2

Nomenclature	Equip No.	Average Age	Remarks
<b>General Engineering</b>			
Crane: Whl-mounted Hydraulic 25-ton All Terrain AT422T	C36586	21	Past EUL
Distributor Water Tank Type: 6K-gal Semitrailer-mtd (CCE)	D28318	37	Past EUL
Excavator: Hydraulic (HYEX) Type I	E27792	22	Past EUL
Excavator: Hydraulic (HYEX) Type II	E41791	20	Past EUL
Compactor High Speed: Tamping Self-Propelled (CCE)	E61618	21	Past EUL
Grader Road Motorized: DED Heavy (CCE)	G74783	36	Past EUL
Fire Fighting Equipment Set: TM Multipurpose	H56391	37	Past EUL
Scraper Elevating: SP 9-11 cu yd sectionalized	S30039	13	
Scraper Earth Moving: SP 14-18 cu yd (CCE)	S56246	37	Past EUL
Tractor FT HS: Deployable Lt Engineer (DEUCE)	T76541	20	Past EUL
Tractor FT LS: DSL Med DBP w/Buldoz w/Scarif Winch	W76816	41	Past EUL
Tractor FT LS: DSL Med DBP w/Buldoz w/Scarif Ripper	W83529	38	Past EUL
<b>Maneuver Combat Vehicles</b>			
Carrier Personnel Full Tracked: Armored (RISE)	C18234	39	Past EUL
Bradley Fighting Vehicle M2A2 ODS SA	P19727	39	Past EUL
Bradley Fighting Vehicle M2A3	F60564	33	Past EUL
Fire Support Vehicle (FSV)	F86821	20	
Infantry Carrier Vehicle (ICV)	J22626	18	
Engineer Squad Vehicle (ESV)	J97621	18	
Mortar Carrier Vehicle (MCV)	M53369	21	
Mobile Gun System (MGS)	M57720	18	
Recovery Vehicle Full Tracked: Medium M88A1	R50681	47	Past EUL
Recovery Vehicle Full Tracked: Medium M88A2	R50885	19	
Tank Combat Full Tracked M1A1	T13168	32	Past EUL
Tank Combat Full Tracked M1A2	T13305	32	Past EUL
<b>Strike</b>			
Carrier Ammunition Tracked Vehicle (CATV)	C10908	33	Past EUL
Howitzer Light Towed: M119A3	H05007	12	
Howitzer Medium Self Propelled M109A6	H57642	36	Past EUL
Howitzer Towed: M777	H57916	15	
<b>Support Systems</b>			
Container Platform: Roll-In/Roll-Out	B83002	30	Past EUL
Container Handling Unit (CHU)	C84862	19	
<b>Trailers</b>			
Semitrailer Tank: 5K-gal Bulk Haul Self-Load/Unload	S10059	24	
Semitrailer Flatbed: Breakbulk/Cont Transporter 22-1/2-ton	S70027	30	
Semitrailer Flatbed: Breakbulk/Container Transporter 34-ton	S70159	34	
Semitrailer Low-bed: 40-ton 6-wheel	S70594	34	
Semitrailer Low-bed: 70-ton Heavy Equip Transporter (HET)	S70859	24	
Semitrailer Tank: 5K-gal Fuel Dispensing Automotive	S73372	30	Past EUL
Trailer Flatbed: 11-ton 4-wheel (HEMAT)	T45465	24	EUL
Trailer: Palletized Loading 8X20	T93761	18	

## ARNG Average Age of Equipment

Table 2

Nomenclature	Equip No.	Average Age	Remarks
Trailer Cargo: MTV W/Dropsides M1095	T95555	14	
Trailer Cargo: High Mobility 1-1/4-ton	T95924	16	
Trailer: Light Tactical 3/4-ton	T95992	16	
Trailer Flatbed: M1082 Cargo LMTV w/Dropsides	T96564	16	
<b>Trucks</b>			
Truck Utility: Heavy Variant (HMMWV) 10K GVW	T07679	25	Past EUL
Truck Utility: ECV Armament Carrier M1151A1	T34704	16	
Truck Utility: M1152A1	T37588	15	
Truck Ambulance: 4 Litter Armored (HMMWV)	T38844	25	Full buy out, older vehicles to be divested upon receipt
Truck Cargo: Tactical HEMTT w/Lt Crane W/W	T39518	37	Past EUL
Truck Cargo: Tactical HEMTT w/Med Crane	T39586	31	Past EUL
Truck Cargo: Tactical HEMTT w/Med Crane W/W	T39654	34	Past EUL
Truck Cargo: Heavy PLS Transporter 15-16.5 ton 10X10	T40999	21	
Truck Cargo: Heavy PLS Transporter 15-16.5 ton w/MHE	T41067	30	Past EUL
Truck Cargo: MTV W/W	T41135	20	
Truck Cargo: MTV w/MHE	T41203	20	
Truck Utility : M1165A1	T56383	15	
Truck Tank: Fuel Servicing 2500G HEMTT W/W	T58161	30	Past EUL
Truck Tank: Fuel Servicing 2500G HEMTT W/W M978A4	T58318	17	
Truck Tractor: Heavy Equipment Transporter (HET)	T59048	27	Past EUL
Truck Cargo: Tactical HEMTT w/Lt Crane	T59278	36	Past EUL
Truck Cargo: Tactical HEMTT w/Med Crane M985A4	T59380	19	
Truck Cargo: LMTV	T60081	20	
Truck Cargo: LMTV W/W	T60149	20	
Truck Tractor: Tactical HEMTT M983A4	T60946	13	
Truck Tractor: Line Haul C/S 50000 GVW 6X4 M915	T61103	29	Past EUL
Truck Tractor: MTV	T61239	15	
Truck Tractor: MTV W/W	T61307	20	
Truck Cargo: MTV LWB	T61704	20	
Truck Cargo: MTV	T61908	19	
Truck Wrecker: Tactical HEMTT W/W	T63093	26	Past EUL
Truck Wrecker: Tactical HEMTT W/W M984A4	T63161	18	Past EUL
Truck Dump: MTV	T64911	28	Past EUL
Truck Tank: Fuel Servicing 2500G HEMTT	T87243	26	Past EUL
Truck Tractor: LET 6X6 66000 GVW W/W C/S	T91656	24	EUL
Truck Van: LMTV	T93484	19	
Truck Wrecker: MTV W/W	T94709	19	
Truck Cargo: Tactical 8X8 HEMTT w/LHS	T96496	19	
Truck Dump: 20-ton DED 12 cu yd Cap (CCE)	X44403	21	Past EUL

**Service Procurement Program - Reserve (P-1R)**

*NOTE: This table provides a comparison of the dollar value of the FY 2021 request, the FY 2021 enacted amount; and, the actual amount spent on procurement for specific categories of RC equipment. All values are costs in millions. Deliveries of procured equipment normally take one to two years before they arrive in the inventory; e.g., items procured in FY 2023 are expected to arrive in RC inventories in FY 2024 or FY 2025.*

<b>Nomenclature</b>	<b>Request</b>	<b>Enacted</b>	<b>Actual</b>
Rotary	1,055	1,263	1,255
Modification of Tracked Combat Vehicles	200	983	1,131
Tactical Vehicles	149	321	307
Modifications	14	228	232
Elect Equip - Tactical Surveillance	152	357	174
Modification of Aircraft	62	110	103
Bridging Equipment	99	120	101
Comm - Satellite Communications	35	35	52
Elect Equip - Tact Int Rel Act (TIARA)	51	51	51
Engineer (Non-Construction) Equipment	61	57	49
Comm - Joint Communications	48	48	38
Petroleum Equipment	32	6	35
Elect Equip - Tactical C2 Systems	3	38	32
Chemical Defensive Equipment	14	28	29
Construction Equipment	25	25	28
Information Security	16	22	26
Generators	10	22	26
Comm - Combat Communications	29	22	23
Comm - C3 System	14	13	20
Maintenance Equipment	13	18	16
Training Equipment	17	16	12
Combat Service Support Equipment	39	23	12
Anti-Tank/Assault Missile System	9	9	9
Test Measure and Dig Equipment (TMD)	18	10	9
Weapons & Other Combat Vehicles	3	8	8
Other Support Equipment	2	2	7
Material Handling Equipment	4	4	4
Elect Equip - Audio Visual Sys (A/V)	2	2	2
Medical Equipment	1	1	1
Other Support	13	0	0
<b>Total</b>	<b>2,193</b>	<b>3,843</b>	<b>3,793</b>



## National Guard and Reserve Equipment Account (NGREA) Procurements

*NOTE: This table identifies the dollar value of planned equipment procurements with the National Guard and Reserve Account (NGREA). These funds are available for a three-year period from the year of appropriation. Deliveries of procured equipment normally take one to two years from the date of procurement before they arrive in the inventory.*

Army National Guard Defense Appropriations Act NGREA	FY 2021	FY 2022	FY 2023 <sup>1</sup>
<b>Assured Mobility &amp; Force Protection</b>			
High Mobility Engineer Excavator (HMEE)		5,670,195	
Crane, All-Terrain		4,500,000	
Surveying Set: AN/GSN-16, Satellite Signals, Global Positioning System (GPS-S)		15,318,000	
Survey Set: Automatic Integrated Survey Instrument (AIS)		6,177,000	
Detecting Set: Mine		2,774,000	
Instrument Set, Reconnaissance and Surveying: AN/TKQ-5 (ENFIRE)		4,528,800	
<b>Aviation</b>			
Aircraft Training Device (UH-60): Cockpit Academic Procedural Tool (UH-60M)	517,134		
Aircraft Training Device (AH-64): Attack Helicopter Gunnery Trainer (AH-64D)	750,000		
Aircraft Safety System (UH-60): Mobile Aircraft Restraint System (UH-60); External Rescue Hoist System	27,596,626	9,523,800	
Aircraft maintenance equipment: Milling Machine, 5 Axis; Printer, 3D	2,723,207		
Fire-fighting Equipment: Fire Suppression Water Buckets	2,979,200	3,371,625	
Aircraft Fuel Support Systems: Reduced Size Extended Range Fuel Roller Systems	1,245,412		
MEDEVAC Seat (UH-72)		1,623,375	
Moving Map System (MMS) (UH-72A)		6,083,218	
Link-16 Radio (UH-72A)		3,511,442	
Emergency Jettison Cockpit Door System (UH-72)		2,518,379	
Special Tools & Test Equipment (STTE) toolkits (UH-60V)		5,997,955	
Aircraft Special Tools and Test Equipment (STTE) (AH-64E)		4,000,000	
Relocatable Maintenance Hangar and Aircraft Storage		1,802,363	
Borescope, Turbine Engine (UH-72)		439,560	
Airfield Lighting Systems		900,000	
Generic Aircraft Nitrogen Generator (GANG)		105,110	
<b>Command and Control</b>			
Tactical signal systems: Joint Battle Command-Platform (JBCP); Joint Enabling Team Portable Accessibility Kit	1,325,788		
<b>Communications</b>			

**National Guard and Reserve Equipment Account (NGREA) Procurements**

Army National Guard Defense Appropriations Act NGREA	FY 2021	FY 2022	FY 2023 <sup>1</sup>
DOMOPS Communications Systems: Unified Network/Executive Communication Platform; High Frequency Radio Communication System and Universal Secure Phone	10,977,558		
<b>Defense Support of Civil Authorities</b>			
National Guard CBRN Response Enterprise Information Management System (NG CIMS)		4,162,503	
Spectrum Analyzer		520,313	
Vehi+A34:D57cle Mounted Radiological Detection System (VMRDS)		2,380,950	
Dismounted Radiological Detection: Manportable Radiological Detection System (MRDS)		3,111,885	
Chemical Detector; Hand-Held		1,630,035	
Chemical Detector System; Area-Rae Wireless		2,497,500	
Personal Protective Equipment (PPE) for Radiation Exposure: StemRad		4,551,255	
Unmanned Aerial System (UAS); CBRN (Stand-Off or Remote Detection)		1,665,000	
Acoustic Hailing Device (AHD)		824,175	
<b>Engineering</b>			
Construction Equipment: Tractor Wheeled: Industrial Backhoe; Loader Scoop: Heavy Type II; Grader, Road Motorized; Tractor FL Trucked Low speed-W/Hoist & W/Ripper; ND Excavator: Hydraulic Type I Multipurpose Crawler Mount	38,611,498		
EOD Equipment: Surveying Instrument; Detecting Set: Mine	18,851,971		
<b>Force Protection</b>			
DOMOPS Common Operating Picture: CBRN Response Enterprise Information Management System	4,195,200		
Detection System; Chemical Detector; Radiation Portal; Radiac Set Replacement-Robot; Unmanned Aerial Vehicle	10,025,337		
Installations		16,663,500	
Land Mobile Radio System		2,120,378	
Grader, Road Motorized		937,062	
Tractor Wheeled: Industrial Backhoe		653,346	
Loader Scoop: Heavy Type II		746,000	
Snow Removal Equipment (Heavy Duty Rotary Fan Type Snow Blower, Snow Plow)		473,776	
Semi-Trailer Low bed: 40 TON		795,038	
Truck, Telescoping Bucket, TEL-29-NE		1,323,675	
Tractor FL Trucked Low speed-W/Hoist & W/Ripper		16,510,000	
Base Camp, Force Provider Expeditionary		1,725,469	

## National Guard and Reserve Equipment Account (NGREA) Procurements

Army National Guard Defense Appropriations Act NGREA	FY 2021	FY 2022	FY 2023 <sup>1</sup>
Truck, Dump		2,924,598	
Mobile Emergency Backup Power Generation		368,589	
Aqueous Fire Fighting Truck Foam Test System		1,157,175	
Truck, Firefighting		1,041,458	
All Terrain Skid Steer, Tracked		4,791,038	
Laser Ablation System Type CL 1000 for Surface Cleaning		3,569,702	
Rough Terrain Container Handler (RTCH)		1,058,940	
Fire Training Burn Simulator		750,000	
Equipment Refueler, 2,500 gallon		1,268,522	
Tractor, 310 HP		1,397,768	
Forklift, Variable Reach, 40,000LB		575,300	
<b>Intelligence Electronic Warfare and Sensors &amp; Security</b>			
DCGS-A and MI Equipment Sustainment		5,460,035	
Versatile Radio Observation and Direction SIGINT		2,114,545	
<b>Logistics</b>			
Tactical Fuel Systems: Modular Fuel System-Tank Rack Module Y	9,177,285		
Tactical Water systems: Load Handling System: 2000 Gal Water Tank-Rack (HIPPO)	20,039,528		
Transportation Equipment: Light Capability Rough Terrain Forklift-5K; Semi-Trailer Low bed: 40 TON	5,615,462		
Fire-fighting Equipment: Aqueous Fire Fighting Truck Foam Test System; Truck, Firefighting	7,885,641		
Installation Support Equipment: Snow Removal Equipment (Heavy Duty Rotary Fan Type Snow Blower, Snow Plow); Truck, Telescoping Bucket	7,441,954		
<b>Maintenance</b>			
Maintenance Support Equipment: Next Generation Automatic Test System; TMDE Calibration Sets, Secondary Transfer Standards; Metal Working and Machine Shop Set Type I; Metal Working and Machine Shop Set Type II	76,519,650		
<b>Security</b>			
Secure Intelligence Processing Equipment: Sensitive Compartmented Information Facility IT Sets	3,325,000		
Intelligence Training Systems: Intelligence and Electronic Warfare Tactical Proficiency Trainer	598,500		
<b>Training</b>			
Cyber Training Systems: Cybertropolis Cyber Range-Hackable Mini-Energy Grid Cyber Environment	1,045,000		
Small Arms Training Systems: Mobile Marksmanship Training Simulator	11,747,700		

**National Guard and Reserve Equipment Account (NGREA) Procurements**

<b>Army National Guard Defense Appropriations Act NGREA</b>	<b>FY 2021</b>	<b>FY 2022</b>	<b>FY 2023<sup>1</sup></b>
Common Remotely Operated Weapon System (CROWS) / Remote Weapon System (RWS) Table Top Simulator		2,730,600	
Cyber Compliance Network Equipment (Gryphon)		700,011	
<b>Transportation</b>			
Transportation Equipment: Cold-Weather All Terrain Vehicle	21,805,350		
<b>Transportation &amp; Sustainment/Logistics</b>			
Semitrailer Flatbed, (34T)		26,473,500	
Semitrailer Flatbed (25T)		3,396,600	
Truck, Cargo (2.5T)		15,401,250	
Next Generation Automatic Test System		17,898,750	
Maintenance Support Device (MSD)		2,004,660	
Wireless At-Platform Test Set (WATS)		3,652,427	
Metal Working and Machine Shop Set Type I		3,341,655	
TMDE Calibration Sets, Secondary Transfer Standards		2,822,175	
Multi-Temperature Refrigerate Container (MTRCS)		13,320,000	
<b>Unified Mission Command Network</b>			
Telephonic/Computer Equipment Life-Cycle Replacement		19,658,367	
<b>Total ARNG NGREA</b>	<b>28,500,000</b>	<b>285,000,000</b>	<b>335,000,000</b>

1. FY 2023 spending data was not available at time of publication.

**Projected Equipment Transfers and Withdrawals**

*NOTE: This table portrays the planned equipment transfers (Active to Reserve), withdrawals (-), and decommissioning (-). Transferred equipment is commonly called "cascaded equipment," or equipment that is provided to the RC once the AC receives more modern equipment. Although this table highlights a three-year period, many Services will not know exact quantities of transfers or withdrawals until year of execution, due to the uncertainty of the procurement/delivery cycle of new equipment.*

Nomenclature	Equip No.	FY 2024 Qty	FY 2025 Qty	FY 2026 Qty	Remarks
<b>AIR DEFENSE</b>					
CENTER COMMUNICATIONS OPERATIONS: AN/TSQ-253(V)2	C78192	2	2	2	
CENTER: COMMUNICATIONS OPERATIONS	C18033	16	11	2	
CHARGER BATTERY: PP-7309 (STINGER)	C99921	4	4	4	
INTERROGATOR SET: AN/PPX-3 (STINGER)	J98501	2	2	2	
RADIO SET: AN/USQ-140(V)2(C)	R42399	33	37	39	
TOOL KIT: RADAR MAINTENANCE (SENTINEL)	T43957	7	3	1	
<b>AIRCRAFT</b>					
CLOSE ACCESS TARGET RECONNAISSANCE: (CATR)	C05085	4	8	12	
HELICOPTER UTILITY UH-60V:	H05016	22	22	22	
RAVEN UNMANNED AIRCRAFT WITH GIMBALED PAYLOAD:	Z05404	12	12	12	
TACTICAL AUTOMATIC LANDING SYSTEM (TALS): (TUAS-SHADOW)	T05002	0	0	2	
<b>AVIATION</b>					
ARMAMENT SUBSYSTEM HELICOPTER 7.62 MM MG: LIGHT W/O WPN W/E	A05004	116	116	116	
ARMAMENT SUBSYSTEM HELICOPTER 7.62MM MG: RMP MTD LW W/O WPNS W/E	A90344	26	26	26	
AVIATION LIGHT UTILITY MOBILE MAINTENANCE CART (ALUMMC):	A05033	1	1	1	
BLACK HAWK EXTERNAL AUXILIARY FUEL SYSTEM	Z05614	252	252	252	
DETECTING SET, LASER AN/AVR-2B(V)1	L60482	874	874	874	
LASER DETECTING SET :AN/AVR-2B(V)2	L05009	18	18	18	
RADIO SET: HIGH FREQUENCY AN/VRC-100 (V)1	R81691	11	13	14	
SCALE AIRCRAFT WEIGHING: 150000 LB MAX ELEC 115V AC 22-28-V DC	S41732	69	69	69	
SEAT RESCUE: FOREST PENETRATING	S68271	61	61	61	
SHOP EQUIPMENT CONTACT MAINTENANCE: (SECM) AVIATION	S05052	1	1	1	
SURVIVAL KIT ACFT: BASIC 4 PERS	S72693	86	86	86	

**Projected Equipment Transfers and Withdrawals**

Nomenclature	Equip No.	FY 2024 Qty	FY 2025 Qty	FY 2026 Qty	Remarks
SURVIVAL KIT AIRCRAFT: (2MAN) AIRCRAFT MODULAR SURV SYSTEM (AMSS	S72943	102	102	102	
UH-60 MODIFICATION KIT: UTILITY HOIST	M59733	123	123	123	
WARNING RECEIVER SYSTEM COUNTERM: AN/AAR-57	W62187	361	361	361	
WARNING RECEIVER SYSTEM COUNTERM: AN/AAR-57(V)8	W93384	132	132	132	
WARNING RECEIVER SYSTEM: COUNTERM	W62437	518	518	518	
WARNING RECEIVER SYSTEM: COUNTERMEASURE AN/AAR-57(V)1	W41457	24	24	24	
<b>BATTLE CMD C2</b>					
ACC KIT ELEC CAISI 2.0:	A40443	110	108	111	
AIR CONDITIONER 18000 BTUH HORIZONTAL	A05048	458	419	387	
AIR CONDITIONER 18K IECU HORIZONTAL	A05049	168	151	140	
AIR CONDITIONER 36000 BTUH HORIZONTAL	A05050	157	150	143	
AIR CONDITIONER 9000 BTUH HORIZONTAL	A05047	237	223	204	
COM A CO S: AN/GYQ-97A	C56327	11	13	14	
COMMAND CENTER SYSTEM: AN/TSQ-243	C61665	24	26	27	
COMMUNICATION SYSTEM: AN/TTC-65(V)1	C05113	15	14	10	
COMMUNICATIONS CENTRAL: AN/ASC-15E	C59313	64	64	64	
COMMUNICATIONS SYSTEM AN/TYQ-167: (V)4	C05139	159	111	63	
COMPUTER GROUP: TACTICAL OL-761B(V)4/T	C05047	3	5	6	
COMPUTER SY DIG: AN/PYQ-13 (GCCS-A)	C27588	108	112	114	
COMPUTER SYSTEM DIGITAL: AN/TYQ-161(V)2	C05072	424	426	426	
COMPUTER SYSTEM DIGITAL: AN/TYQ-161(V)7	C05073	186	179	173	
MISSION COMMAND INFORMATION SYSTEM	M05087	143	129	125	
NAVIGATION SET: SATELLITE SIGNALS AN/GSN-13	N96180	3	3	3	
POWER SUPPLY: PP-6224/U	P40750	4,940	4,918	4,906	
TACTICAL DEFENSIVE CYBERSPACE OPERATIONS INFRASTRUCTURE	T05095	2	2	2	
TRAILER-MTD: PP-3106/60 KW/50/60 HZ/2M200A1	T93232	20	30	36	
<b>BATTLESPACE AWARENESS</b>					
CENTRAL: COMMUNICATIONS AN/TSQ-226(V)3	C43399	0	4	8	
COMPUTER SYSTEM: DIGITAL AN/PYQ-3	C18312	87	50	51	
DETECTING SYSTEM COUNTERMEASURES: AN/MLQ-44B(V)1	D05019			8	

**Projected Equipment Transfers and Withdrawals**

Nomenclature	Equip No.	FY 2024 Qty	FY 2025 Qty	FY 2026 Qty	Remarks
DETECTING SYSTEM COUNTRMEASURES: AN/MLQ-40(V)4	D04182	28	33	32	
GROUND STATION, TACTICAL INTELLIGENCE: AN/TSQ-179	T37036	0	0	1	
<b>BC TRANSPORT NETWORKS</b>					
AMMETER: DIGITAL CLAMP-ON ME-563()/U	A39017	329	330	331	
ANTENNA GROUP: OE-452/PRC	A79517	12	12	12	
ATTENUATOR	A00732	5	5	5	
COMPUTER GROUP: TACTICAL OL-783(V)1/T	C05041	7	9	11	
COMPUTER GROUP: TACTICAL OL-783(V)2/T	C05040	6	6	6	
COMPUTER SYSTEM: DIGITAL AN/PSQ-17	C18380	35	37	38	
FREQ HOPING MLTIPLEX: TD-1456VRC	F99520	15	60	104	
KEY PROCESSOR KP	K05001	191	193	198	
MK-3489/U: ACCESSORY KIT	M05055	1	1	1	
RADIO SET, GRID REFERENCE: AN/GRC-229D	R91580	9	9	9	
RADIO SET: AN/PRC-104A	R55200	148	148	148	
RADIO SET: AN/PRC-148C(V)5	Z05711	581	581	581	
RADIO SET: AN/PSC-5	R57606	2,783	2,797	2,835	
RADIO SET: AN/VRC-104(V)6 150 WATT W/ PRC-150 HF RADIO	R87139	293	308	326	
RADIO SET: AN/VSQ-2D(V)1	P49587	18	28	26	
RADIO SET: AN/VSQ-2D(V)2	P99724	130	130	130	
RADIO TERMINAL SET: AN/TRC-170 (V)3	R93035	0	9	16	
RECEIVE SUITE: AN/TSR-11	R30658	134	136	141	
SATELLITE COMMUNICATION SUBSYSTEM: AN/TSC-208	S05013	0	3	3	
SWITCHING GROUP DIGITAL DATA: OB-123B/T	S05014	917	789	661	
TELECONFERENCE SYSTEM AN/TYQ-122B(V)2	Z05448	206	198	188	
TELECONFERENCE SYSTEM: AN/TYQ-122B(V)3	Z05509	209	209	209	
TERMINAL: SATELLITE COMMUNICATION AN/TSC-154	T81733	48	54	59	
TRANSPONDER COMPUTER: KIT-1A/TSEC WITH Z-ACA/1 PS	X22266	139	139	139	
<b>CBT MOBILITY</b>					
BRIDGE, HEAVY ASSAULT SCISSORING	B31098	24	46	57	
CARRIER BRIDGE LAUNCHING: JOINT ASSAULT XM1110	C05137	46	66	88	

### Projected Equipment Transfers and Withdrawals

Nomenclature	Equip No.	FY 2024 Qty	FY 2025 Qty	FY 2026 Qty	Remarks
DEMOLITION SET EXPLOSIVE: INITIATING ELECTRIC AND SEMI ELECTRIC	F91490	63	50	37	
DETECTING SET, MINE: AN/VSS-6B	D05030	28	28	28	
DETECTING SET: MINE AN/PSS-14	D03932	2,863	2,339	2,213	
DETECTING SET: MINE AN/PSS-14C	D05016	0	102	216	
EHP: ROLLER AND WNS STTE - FIELD LEVEL	E05026	0	2	2	
EXPLOSIVE HAZARD PRE-DETONATION (EHP) STTE-FIELD LEVEL	Z05714	22	22	22	
HIGH MOBILITY ENGINEER EXCAVATOR (HMEE) TYPE IV	H05017	4	4	0	
HIGH MOBILITY ENGINEER EXCAVATOR (HMEE): TYPE I	H53576	0	1	25	
HUSKY MOUNTED DETECTION SYSTEM: AN/VSS-6A	H05012	13	13	13	
MMPV II SPECIAL TOOL KIT - FIELD LEVEL	M05066	5	5	5	
MOUNTING KIT AIR DEFENSE: M139 VOLCANO FOR THE UH-60A/L BLACKHAW	M78551	9	9	9	
MOUNTING KIT: ROLLER MINE CLEARING (M1)	M18157	27	27	27	
PREDETONATION SYSTEM, EXPLOSIVE HAZARD, VEHICLE MOUNTED: ROLLER	P05054	6	6	6	
SUPPLEMENTARY SET BRIDGE:	U60216	6	6	6	
TOOL KIT PIONEER ENGINEER COMBAT PLATOON: TOOLS FOR MANUAL LABOR	W48074	148	135	122	
TOOL KIT PIONEER ENGINEER SQUAD: LAND CLR AND BLDG ERECTION	W48348	233	215	197	
TRAILER, CARGO: 12 TON LIGHT ENGINEER UTILITY TRAILER	T05106	28	28	28	
VEHICLE OPTICS SENSOR SYSTEM: (VOSS)	V05007	3	3	3	
<b>FIELD LOG</b>					
ARMAMENT: REPAIR SHOP SET (ARSS) VERSION II	A05077	30	30	30	
ASLMS V2 CONFIGURATION 3	A05081	54	54	54	
ASLMS V2 CONFIGURATION 5	A05078	63	63	63	
ASLMS V2 CONFIGURATION: 4	A05079	5	5	5	
ASLMS: V2 CONFIGURATION 1	A05082	2	2	2	
ASLMS: V2 CONFIGURATION 2	A05080	12	12	12	
BULK FUEL DISTRIBUTION SYSTEM: (BFDS)	Z05917		10	0	
CALIBRATION SET SECONDARY TRANSFER STANDARDS	C72574	3	4	5	
CALIBRATION SET: AN/GSM-439	T05046	0	0	0	



### Projected Equipment Transfers and Withdrawals

Nomenclature	Equip No.	FY 2024 Qty	FY 2025 Qty	FY 2026 Qty	Remarks
CALIBRATION SET: AN/GSM-440	T05045	0	0	1	
DRUM FABRIC COLLAPSIBLE: POTABLE WATER	G68998	18	18	0	
FORWARD AREA REFUELING SYSTEM: ADVANCED AVIATION (AAFARS)	F42611	5	5	5	
FUEL SYSTEM SUPPLY POINT: FSSP TYPE 4 300K	F04966	5	5	5	
GENERATOR SIGNAL: SG-1366 ()/U	G05005	1	0	2	
HEATER: DUCT TYPE PORTABLE 1200-00 BTUS	H00586	28	22	12	
LCRTF II 5K STTE - FIELD LEVEL	Z05882	30	30	30	
LIGHT CAPABILITY ROUGH TERRAIN FORKLIFT (LCRTF): 5K	L05010	60	12	0	
LOAD HANDLING SYS (LHS): 2000 GAL COMP WATER TANK-RACK (HIPPO)	T32629	565	425	287	
M-ATV SPECIAL TOOL KIT-FIELD LEVEL	Z05807	7	7	7	
METAL WORKING AND MACHINING SHOP SET (MWMSS): TYPE 1	M05053	14	12	11	
METAL WORKING AND MACHINING SHOP SET (MWMSS): TYPE 2	M05054	15	14	13	
MOBILE MAINTENANCE SHOP: AN/GSM-705	C72642	0	1	2	
NEXT GENERATION SHOP EQUIPMENT: CONTACT MAINTENANCE ORD/ENG	Z05910	135	135	135	
RADIO FREQUENCY POWER TEST SET TS-4548/P:	R05045	65	61	59	
REFRIGERATION TOOL KIT (RTK): BASE	R05034	41	21	0	
REFRIGERATION TOOL KIT(RTK): INDIVIDUAL	R05033	362	364	366	
REFUELING SYSTEM: AVIATION HEMTT TANKER	R66273	10	0	0	
SEW- NEXT GENERATION	S05074	20	21	22	
SHOP EQUIPMENT MACHINE SHOP: FM HEAVY SUPPL NO 1 LESS POWER	T15641	6	4	3	
TANK AND PUMP UNIT LIQUID DISPENSING TRUCKMOUNTING:	V12141	88	52	30	
TANK UNIT LIQUID DISPENSING TRAILER MOUNTING:	V19950	167	147	134	
TEST SET RADIO FREQUENCY POWER: AN/USM-491	T89944	260	248	238	
TEST SET RADIO: AN/PRM 36	T05038	77	82	83	
TEST SET TELECOMM: SYS TS-4544/U	T05108	42	44	46	
TEST STATION GUIDED MISSILE: SYSTEM	T01187	5	5	5	
TOOL KIT ELECTRIC EQUIPMENT: TK-101/GSQ	W37483	598	618	642	
TOOL KIT LINEMANS: TE-27	W44101	53	53	53	

**Projected Equipment Transfers and Withdrawals**

Nomenclature	Equip No.	FY 2024 Qty	FY 2025 Qty	FY 2026 Qty	Remarks
TOOL KIT: ELECTRONICS MAINTENANCE TK-17	T57382	135	217	298	
TOPHANDLER ATTACHMENT: 40 FT FREIGHT CONTAINER MIL-T-52951 (ME)	T67731	5	6	9	
TRAILER TANK: WATER 400 GALLON 1-1/2 TON 2 WHEEL W/E	W98825	163	468	419	
WATER STORAGE/DISTRIBUTION SET: 40000 GPD (BRIGADE)	W55968	38	34	30	
WIRELESS AT-PLATFORM TEST SET (WATS)	W05009	1,001	1,349	1,065	
<b>FORCE PROTECTION</b>					
CHEMICAL- BIOLOGICAL PROTECTIVE SHELTER (CBPS): M8	C07506	117	89	89	
CHMICAL BIOLOGICL PROTECTIVE SHLTR: (CBPS ELECTRIC)	C05093	31	31	31	
COLLECTIVE PROTECTION EQUIPMENT: NBC SIMPLIFIED M20	C79000	89	84	86	
RADIAC SET: AN/VDR-2	R20684	421	659	616	
<b>GEN ENGINEERING</b>					
DIVING EQUIPMENT SET: SCUBA DIVING SUPP TYPE A	D32859	3	3	3	
DIVING EQUIPMENT SET: SCUBA DIVING SUPP TYPE B	D32927	5	5	5	
ENGINEER MISSION MODULE-WATER DISTRIBUTO (EMM-WD): TYPE II	E05007	4	4	4	
FIREFIGHTER INDIVIDUAL REQUIREMENTS EQUIPMENT SET: (FIRES)	F05005	398	398	398	
HEATER HOT OIL TRLR MOUNTED: ELECTRIC POWERED 2100000BTU OUTPUT	K25215	1	1	1	
M1158 TRUCK: HEMTT BASED WATER TENDER	M31997	1	1	1	
SAW ABRASIVE DISK MASONRY: GAS DRVN 18 IN BLADE	S34508	21	21	21	
SELF PROPELLED CONCRETE SAW	S05079	11	11	11	
SURVEYING INSTRUMENT: ELEC DIST-ANCE MEAS SHORT RGE INFRARED AIS	S03726	146	146	146	
SURVEYING SET GENERAL PURPOSE: PLANIMET CONST AND TOPO SURVEY	U70179	156	156	156	
SWEEPER ROTARY TOWED: GAS/DIESELDRIVEN WITH ADJUSTABLE BRUSH	U76871	7	7	7	
TEST SET ASPHALT: (ARMY)	V64463	27	27	27	
TEST SET CONCRETE:	V71587	30	30	30	

### Projected Equipment Transfers and Withdrawals

Nomenclature	Equip No.	FY 2024 Qty	FY 2025 Qty	FY 2026 Qty	Remarks
TEST SET SOIL: (ARMY)	V92959	32	32	32	
TESTER: CONSTRUCTION MATERIALS MOISTURE AND DENSITY	T05032	64	64	64	
TOOL KIT PIPEFITTERS: 2-1/2 TO 4 IN PIPE	W48759	12	0	0	
<b>MANEUVER CBT VEH</b>					
ABRAMS M1A2: SEPV3 SPECIAL TOOL KIT - FIELD LEVEL	A05076	18	23	23	
ADVANCED MEDICAL TREATMENT CARRIER	A05067	0	2	2	
MEDICAL EVACUATION CARRIER	M05059	4	4	4	
<b>MANEUVER SYSTEMS</b>					
ADAPTER HARDWARE: FVS PECULIAR (STE-M1/FVS)	A10769	24	24	24	
DRIVERS ENHANCERS: AN/VAS-5	D41659	746	1,569	1,767	
MORTAR FIRE CONTROL SYSTEM: M151	M53619	3	3	3	
MORTAR: 120 MILLIMETER TOWED	M68326	13	13	1	
<b>MEDICAL FIELD SYSTEMS</b>					
COMPUTER SYSTEM: DIGITAL AN/TYQ-108(V)3	C27639	48	52	52	
DENTAL OPERATING SYSTEM (DOS)	Z05950	5	5	5	
INCUBATOR, DRY HEAT	J05037	3	3	3	
MEDICAL EQUIPMENT SET AIR AMBULANCE HELICOPTER LIGHT UTILITY	M05043	28	28	28	
MONITOR PATIENT VITAL SIGNS:	M66558	87	49	7	
OCCUPATIONAL HEALTH SURVEY SET:	M31506	23	23	23	
OXYGEN GENERATOR: FIELD PORTABLE (OGFP)	P05027	1,425	1,457	1,473	
STIMULATOR, ULTRASOUND	S05063	16	16	16	
TABLE EXAMINING AND TREATMENT W STIRRUPS:	T05086	29	28	28	
<b>OTHER SYSTEMS</b>					
COMMON ROBOTIC SYSTEM - HEAVY (CRS-H):	C05118	42	42	42	
COMMUNICATION SYSTEM: AN/TYC-45(V)1	C05114	16			
CROSS DOMAIN SERVER SET: AN/GYK-79	Z05740	16	16	16	
OSCILLOSCOPE: OS-305()/U	P05060	45	46	48	
OSCILLOSCOPE: OS-307/U	P05061	145	154	154	
<b>SOLDIER SYSTEMS</b>					
BAYONET-KNIFE: W/SCABBARD FOR M16A1 RIFLE	B49272	26,802	12,610	13,173	
IMPROVED MAGNETIC RECEIVE UNIT:	Z05634	68	68	68	
JUMP PACK PARACHUTISTS:	J17565	88	88	88	

**Projected Equipment Transfers and Withdrawals**

Nomenclature	Equip No.	FY 2024 Qty	FY 2025 Qty	FY 2026 Qty	Remarks
M25A1: STABILIZED BINOCULAR	M05036	83	85	86	
MOUNTING KIT: F/M548A1	M18293	1	5	7	
NIGHT VISION DEVIC: AN/PSQ-20	N07848	4,833	1,404	1,166	
NIGHT VISION: GOGGLE	N05482	145,607	145,738	145,964	
TARGET LOCATOR MODU:	T27471	1,733	1,727	1,719	
TELESCOPE: STRAIGHT	T60185	629	535	603	
TOM-TOM: W/TELESCOPIC FIBER CASE AND ACCESSORIES	W25241	157	157	157	
<b>SOLDIER WPNS</b>					
MACHINE GUN 7.62 MILLIMETER: SIX BARRELS	L92323	80	80	80	
MACHINE GUN: LIGHT 5.56MM M249	M39263	1,159	1,135	1,139	
SDMR SPECIAL TOOLS KIT - FIELD LEVEL	Z05969	30	30	30	
<b>STRIKE</b>					
COMPUTER SYSTEM DIGITAL: AN/GYK-56 (AFATDS)	C05018	6	16	21	
JOINTS EFFECTS TARGETING SYSTEM TARGET LOCATION DESIGNATION SYST	J05034	84	84	8	
M109 FAMILY STTE-FIELD LEVEL:	M05076	15	15	15	
MK-3495: TOOL KIT RADAR SET	Z05699	67	71	73	
MULTIPLE LAUNCH ROCKET SYSTEM: (MLRS) M270A1 IMPROVED LAUNCHER	M82581	10	20	20	
RADAR SYSTEM: COUNTER FIRE TARGET ACQUISITION RADAR	R05016	0	1	5	
TOOL KIT GUIDED MISSILE: LAUNCHER ORG (HIMARS)	T40881	1	1	1	
TOOL KIT: LAUNCHER LOADER MODULEDIRECT SUPPORT (MLRS)	T43752	126	126	126	
TOOL KIT: LAUNCHER LOADER MODULEORGANAZIONAL (MLRS)	T29167	10	10	10	
<b>SUPPORT SYSTEMS</b>					
BASS UPRIGHT: LAQUERED FINISH W/MOUTHPIECE LYRE AND CASE	B41801	166	156	156	
BASSOON: HECKEL KEY SYSTEM W/L AND SHORT BOCALS W/ACCESSORIES	B42438	40	32	32	
COMMON ROBOTIC SYSTEM - INDIVIDUAL (CRS-I)	C05125	428	410	392	
COMP UNIT RCP: AIR 5 HP GAS AND DIESEL DRVN 5.1 CFM 3200 PSI	C74517	9	9	9	
COUPLING AIRDROP EXTRACTION FORCE TRANSFER: M1 HIGH CAP 16 FT	F25842	203	203	203	

**Projected Equipment Transfers and Withdrawals**

Nomenclature	Equip No.	FY 2024 Qty	FY 2025 Qty	FY 2026 Qty	Remarks
DRUM BASS: COMBO TYPE W/ACCESSORIES	G68413	71	59	59	
FIRING DEVICE DEMOLITION: MK152 MOD 0	F60336	6	0	0	
FIRING DEVICE: DEMOLITION RADIO TYPE X152 (RAMS)	F91210	99	99	99	
KIT, FIELD LEVEL, SPECIAL TOOLS, JOINT LIGHT TACTICAL VEHICLE	K05004	14	16	18	
MAN TRANSPORTABLE ROBOTIC SYSTEM (MTRS) INCREMENT: II	M05068	41	41	41	
M1 ISO COMPATIBLE PALLETIZED FLATRACK (IPF)	Z05744	6	6	6	
OBOE: C PROFESSIONAL	N15018	14	6	6	
OUTBOARD MOTOR GASOLINE: 35 HP SILENCED WATERPROOFED	P34402	217	217	217	
PARACHUTE CARGO EXTRACTION: 15 FT DIAMETER	P66897	752	752	752	
PARACHUTE CARGO EXTRACTION: 22 FT DIAMETER	P67034	190	190	190	
PATROL EXPLOSIVE DETECTOR DOG-ENHANCED:	P05055	1	1	1	
PLATFORM: CONTAINER ROLL IN/ROLL OUT	B83002	1,363	863	817	
PUBLIC ADDRESS SYSTEM: MUSICAL SUPPORT	P26288	112	108	108	
RADAR SIGNAL SIM SET: SM-674A/UPM	R93247	78	78	78	
RELEASE CARGO PARACHUTE: AIRDROP M-1	R71258	79	79	79	
SIDE RAIL TYPE V: 16 FT PLATFORM	S65628	758	758	758	
TOOL SET RADIOGRAPHIC: MK 32 MODEL O	W62672	12	12	12	
TRUCK MAINTENANCE: TELEPHONE/UTILITY CONST 36000GVW 6X4 W/WN W/E	T53858	6	6	6	
VAN: M1079A2	Z05604	5	5	5	
WRECKER: WITH WINCH, M1089A2	Z05596		2	4	
X-RAY APPARATUS: RADIOGRAPHIC INDUSTRIAL	X91036	79	79	79	
<b>TRAILERS</b>					
JOINT LIGHT TACTICAL VEHICLE TRAILER (JLTV-T)	J05046	99	27	41	
SEMITRAILER FLATBED: BREAKBULK/CONTAINER TRANSPORTER CMRCIAL 34T	S70159	298	283	248	
SEMITRAILER LOW BED: 25 TON 4 WHEEL W/E	S70517	293	275	274	
TRAILER CARGO: 1-1/2 TON 2 WHEEL W/E	W95811	2	0	0	
<b>TRUCKS</b>					
EXPANSIBLE VAN: M1087A2	Z05598	40	40	40	

### Projected Equipment Transfers and Withdrawals

Nomenclature	Equip No.	FY 2024 Qty	FY 2025 Qty	FY 2026 Qty	Remarks
JOINT LIGHT TACTICAL VEHICLE - FOUR SEAT VARIANT -HEAVY GUNS CAR	J05031	18			
JOINT LIGHT TACTICAL VEHICLE: A1 FOUR SEAT GENERAL PURPOSE	J05029	0	53	113	
JOINT LIGHT TACTICAL VEHICLE: FOUR SEAT GENERAL PURPOSE	J05033	4	4	4	
MODULAR CATASTROPHIC RECOVERY SYSTEM:	M05085	43	45	45	
TRACTOR LIN HAUL: M915A5	T88858	801	801	801	
TRUCK CARGO: 5 TON 6X6 MTV W/E LAPES/AD	T41036	18	24	24	
TRUCK CARGO: 5 TON 6X6 MTV W/E WW LAPES/AD	T41104	2	2	2	
TRUCK CARGO: 5 TON WO/WINCH	T41515	1,274	1,081	1,105	
TRUCK CARGO: W/MHE WO/WINCH	T59584	138	138	138	
TRUCK CARGO: WO/WINCH	T59448	548	283	239	
TRUCK PALLETIZED (LHS): M1120A4	T55054	296	289	282	
TRUCK PALLETIZED LOADING: M1074A1	T55236	94	94	94	
TRUCK TANK: WO/WINCH	T58318	269	259	266	
TRUCK TRACTOR: WO/WINCH	T88983	44	82	99	
TRUCK UTILITY: EXPANDED CAPACITY 4X4 W/E HMMWV M1113	T61630	408	290	234	
TRUCK WRECKER: M984A4	T63161	163	160	158	
TRUCK, CARGO: M1078A2	Z05606	78	63	52	
TRUCK, CARGO: M1083A2	Z05602	337	320	307	
TRUCK, CARGO: WITH LWB, M1085A2	Z05600	65	65	65	
TRUCK, TRACTOR: M1088A2	Z05597	31	23	15	
TRUCK: M1075A1 WITH ECHU	T05063	47	0	0	
TRUCK: M1120A4 WITH ECHU	T05061	92	89	89	
TRUCK: MATERIALS HANDLING-CONTAINER	T45435	0	4	4	
TRUCK: PALLETIZED LOADING	T81874	91	195	68	
<b>UNKNOWN</b>					
ARMAMENT SUBSYSTEM: REMOTELY OPERATED M153A4	Z05833	6	6	6	

**FY 2020 Planned vs Actual Procurements and Transfers**

*NOTE: This table compares planned Service procurements and transfers to the RC in FY 2020 with actual procurements and transfers. FY 2020 is selected as these are the most recent funds to expire. Because the procurement cycle is normally one to two years from funding to delivery, this table identifies only deliveries through the end of 2022. Procurement and NGREA columns reflect cost values in dollars. In FY 2020, \$1.3 billion of NGREA was reprogrammed by DoD.*

Nomenclature	Equip. No.	FY 2020 Transfers (# of items)		FY 2020 Procurements (\$s)		FY 2020 NGREA (\$s)	
		Plan	Actual	Plan	Actual	Plan	Actual
<b>FY 2020 Planned Transfers &amp; Withdrawals</b>							
<b>Battle Command C2</b>							
NETT Warrior System	N05004	599	0				
<b>Battlespace Awareness</b>							
Data Analysis Central: AN/MSW-24	D77801	1	0				
<b>Combat Mobility</b>							
Transporter: Common Bridge (CBT) M1977A4	T05067	4	0				
Loader Scoop Type: DSL 2-1/2cu yd Hinge Frame w/Multipurpose Bucket	L76556	4					
<b>Field Logistics</b>							
Kitchen: Company Level Field Feeding	K28601	131	0				
Maintenance Support Device	T92889	393	0				
<b>Force Protection</b>							
Mask Chem-Bio Joint Service General Purpose: Field M50	M12986	8,067	0				
<b>General Engineering</b>							
Hydraulic Electric Pneumatic Petroleum Operated Equipment (HEPPOE)	H05004	13	0				
Tractor FT HS: Deployable LT Engineer (Deuce)	T76541	11	0				
Tractor Full Tracked Low Speed: DSL Med Dbp W/Buldoz W/Scarif Winch	W76816	10	0				
<b>Maneuver Combat Vehicles</b>							
Recovery Vehicle Full Tracked: Medium	R50681	4	0				
<b>Soldier Systems</b>							
Illuminator Integrated: Small Arms Small Tactical Optical Rifle Mounted (STORM) Micro-Laser Rangefinder	J68653	6	0				
<b>Soldier Weapons</b>							
Carbine 5.56mm: M4A1	C06935	118	0				

**FY 2020 Planned vs Actual Procurements and Transfers**

Nomenclature	Equip. No.	FY 2020 Transfers (# of items)		FY 2020 Procurements (\$s)		FY 2020 NGREA (\$s)	
		Plan	Actual	Plan	Actual	Plan	Actual
<b>FY 2020 Service Procurement Programs – RC (P-1R) Equipment</b>							
<b>Aircraft</b>							
Helicopter, Light Utility (LUH)				0	37,000,000		
AH-64 Apache Block IIIA Reman				0	494,827,000		
UH-60 Blackhawk M Model (MYP)				1,272,574,000	1,331,170,000		
UH-60 Black Hawk L and V Models				155,747,000	155,750,000		
<b>Modification of Aircraft</b>							
CH-47 Cargo Helicopter Mods (MYP)				4,203,000	0		
Utility/Cargo Airplane Mods				3,095,000	0		
Network and Mission Plan				46,970,000	33,400,000		
Comms, Nav Surveillance				45,725,000	8,232,000		
GATM Rollup				12,386,000	7,666,000		
RQ-7 UAV MODS				2,000,000	449,000		
UAS MODS				3,572,000	2,551,000		
<b>Modification of Missiles</b>							
Stinger Mods				51,834,000	46,508,000		
Avenger Mods				7,841,000	9,213,000		
Itas/Tow Mods				694,000	0		
MLRS Mods				8,391,000	0		
Himars Modifications				5,604,000	0		
<b>Other Missiles</b>							
MLRS Reduced Range Practice Rockets (RRPR)				8,261,000	8,261,000		
<b>Weapons and Other Combat Vehicles</b>							
M777 Mods				1,280,000	0		
M4 Carbine Mods				10,689,000	10,689,000		
M119 Modifications				3,057,000	0		
Multi-Role Anti-Armor Anti-Personnel Weapon				2,952,000	396,000		
Precision Sniper Rifle				981,000	624,000		
Compact Semi-Automatic Sniper System				4,981,000	2,373,000		
Carbine				14,255,000	14,255,000		
<b>Tracked Combat Vehicles</b>							
M109 FOV Modifications				12,422,000	0		
Paladin Integrated Management (PIM)				232,651,000	232,651,000		
Joint Assault Bridge				140,125,000	99,174,000		



**FY 2020 Planned vs Actual Procurements and Transfers**

Nomenclature	Equip. No.	FY 2020 Transfers (# of items)		FY 2020 Procurements (\$s)		FY 2020 NAREA (\$s)	
		Plan	Actual	Plan	Actual	Plan	Actual
<b>Tactical and Support Vehicles</b>							
Tactical Trailers/Dolly Sets				6,237,000	8,835,000		
Semitrailers, Flatbed:				38,986,000	57,062,000		
Nontactical Vehicles, Other				548,000	0		
Joint Light Tactical Vehicle				199,204,000	72,598,000		
Truck, Dump, 20t (CCE)				3,613,000	3,716,000		
Family of Medium Tactical Veh (FMTV)				22,943,000	44,214,000		
Firetrucks & Associated Firefighting Equip				870,000	0		
Modification of In Svc Equip				53,995,000	22,495,000		
<b>Communications and Electronics Equipment</b>							
Communications Security (COMSEC)				19,206,000	14,670,000		
Sentinel Mods				21,467,000	20,817,000		
Night Vision Devices				21,205,000	17,001,000		
Family of Weapon Sights (FWS)				18,181,000	16,308,000		
Joint Battle Command - Platform (JBC-P)				106,236,000	11,505,000		
JOINT EFFECTS TARGETING SYSTEM (JETS)				27,888,000	10,132,000		
Signal Modernization Program				36,396,000	8,712,000		
Transportable Tactical Command Communications				6,670,000	0		
Computer Ballistics: LHMCB XM32				2,453,000	2,453,000		
Radio Terminal Set, Mids Lvt(2)				6,415,000	0		
COE Tactical Server Infrastructure (TSI)				12,573,000	1,695,000		
Spider Family of Networked Munitions Inc				3,935,000	4,730,000		
Unified Command Suite				9,291,000	18,291,000		
Fire Support C2 Family				5,541,000	4,613,000		
COTS Communications Equipment				10,000,000	0		
AIR & MSL Defense Planning & Control Sys				1,100,000	0		
Home Station Mission Command Centers (HSMCC)				10,000,000	20,000,000		
DCGS-A (MIP)				62,861,000	0		
DCGS-A-INTEL				0	52,061,000		
TROJAN (MIP)				150,000	0		
Network Management Initialization				3,492,000	0		
SHF Term				3,000,000	0		
Family of Med Comm for Combat Casualty C				6,044,000	4,219,000		
Smart-T (SPACE)				750,000	750,000		

**FY 2020 Planned vs Actual Procurements and Transfers**

Nomenclature	Equip. No.	FY 2020 Transfers (# of items)		FY 2020 Procurements (\$s)		FY 2020 NAREA (\$s)	
		Plan	Actual	Plan	Actual	Plan	Actual
Global Brdcst Svc - GBS				3,000,000	3,000,000		
Reserve Component Automation Sys (RCAS)				16,727,000	16,727,000		
Reconnaissance and Surveying Instrument				6,185,000	3,595,000		
Items Less Than \$5M (Surveying Equipment				1,667,000	671,000		
<b>Other Support Equipment</b>							
Heaters and ECU'S				2,336,000	594,000		
Calibration Sets Equipment				1,316,000	1,212,000		
Integrated Family of Test Equipment (IFTE)				3,198,000	14,988,000		
Generators and Associated Equip				12,747,000	20,594,000		
Test Equipment Modernization (TEMOD)				3,343,000	3,158,000		
Mobile Maintenance Equipment Systems				27,685,000	24,904,000		
Quality Surveillance Equipment				0	0		
Modification of In-Svc Equipment (OPA-3)				2,221,000	8,990,000		
Training Devices, Nonsystem				31,309,000	34,881,000		
Handheld Standoff Minefield Detection Sy				1,893,000	964,000		
Grnd Standoff Mine Detectn Systm (GSTAMIDS)				10,072,000	6,693,000		
Husky Mounted Detection System (HMDS)				24,409,000	3,702,000		
Tactical Bridge, Float-Ribbon				14,828,000	16,406,000		
Common Bridge Transporter (CBT) Recap				21,577,000	40,905,000		
CBRN Defense				9,623,000	6,162,000		
Tractor, Full Tracked				604,000	0		
Distribution Systems, Petroleum & Water				21,469,000	25,363,000		
All Terrain Cranes				8,549,000	11,201,000		
Robotic Combat Support System (RCSS)				660,000	554,000		
Robotics and Applique Systems				9,463,000	32,547,000		
Family of Forklifts				4,403,000	7,465,000		
Render Safe Sets kits Outfits				0	22,909,000		
Aviation Combined Arms Tactical Trainer				922,000	922,000		
Gaming Technology In Support of Army Training				7,758,000	6,758,000		
High Mobility Engineer Excavator (HMEE)				13,282,000	9,761,000		
Combat Support Medical				9,132,000	11,044,000		
Family of Boats and Motors				2,413,000	1,408,000		
Ground Soldier System				10,000,000	6,135,000		
Mobile Soldier Power				14,108,000	5,516,000		

**FY 2020 Planned vs Actual Procurements and Transfers**

Nomenclature	Equip. No.	FY 2020 Transfers (# of items)		FY 2020 Procurements (\$s)		FY 2020 NAREA (\$s)	
		Plan	Actual	Plan	Actual	Plan	Actual
Const Equip Esp				16,008,000	26,525,000		
Field Feeding Equipment				1,673,000	0		
Cargo Aerial Del & Personnel Parachute Sys				8,400,000	2,059,000		
Items Less Than \$5.0M (Const Equip)				1,727,000	0		
Family of Engr Combat and Construction Sys				4,421,000	0		
Items Less Than \$5.0M (Maint Eq)				1,326,000	1,513,000		
<b>Support Equipment and Facilities</b>							
Common Ground Equipment				10,455,000	2,000,000		
Aircrew Integrated Systems				11,767,000	10,360,000		
Air Traffic Control				5,892,000	2,622,000		
<b>Spare and Repair Parts</b>							
Initial Spares - C&E				0	282,000		
<b>Total</b>				<b>3,132,108,000</b>	<b>3,307,156,000</b>		
<b>FY 2020 National Guard and Reserve Equipment Account (NAREA) Equipment</b>							
<b>Total</b>						<b>0</b>	<b>0</b>

# ARNG Major Item of Equipment Substitution List

*NOTE: This table identifies equipment authorized by the Service to be used as a substitute for a primary item of equipment. The table also identifies whether or not the item is able to be deployed in wartime. This data meets the Title 10 requirement to identify equipment that is not the most desired item of equipment.*

Required Item Nomenclature	Reqd Item Equip. No.	LIN Req	Qty AUTH OH	Substitute Item Nomenclature	Substitute Item Equip. No.	SUBLIN Req	SUBLIN OH
<b>AIR DEFENSE</b>							
PATRIOT PAC-3 LAUNCHING STATION:	P11779	0	0	LAUNCHING STATION GM: SEMI TRAILER MID (PATRIOT))	L46979	0	0
PATRIOT PAC-3 MISSILE RND TRAINER: (MRT)	P12165	0	0	GUIDED MISSILE TRAINING M37: (PATRIOT)	G96600	0	0
TRAINING EMPTY ROUND ERT: (PATRIOT)	T05964	0	0	GUIDED MISSILE TRAINING M37: (PATRIOT)	G96600	0	0
<b>AIRCRAFT</b>							
HELICOPTER UTILITY: UH-60L	H32361	419	506	HELICOPTER UTILITY: UH-60A	K32293	0	22
UTILITY CARGO AIRCRAFT UC-35A:	U05004	0	0	AIRPLANE: UTILIT UC-35B	A05015	0	0
<b>BATTLE CMD C2</b>							
AIR CONDITIONER 9000 BTUH HORIZONTAL:	A05047	249	7	AIR CONDITIONER: FL/WALL A/C AC 115V 1PH 50-60CY 9000BTU CMP	A23828	100	224
AIR CONDITIONER 18000 BTUH HORIZONTAL:	A05048	510	10	AIR CONDITIONER: FL/WALL A/C AC 230V 1PH 60CY 18000 BTU CMP	A24017	72	292
AIR CONDITIONER 18K IECU HORIZONTAL:	A05049	176	0	AIR CONDITIONER: FL/WALL A/C AC 208V 3PH 60CY 18000 BTU CMP	A24463	474	780
AIR CONDITIONER 36000 BTUH HORIZONTAL:	A05050	176	10	AIR CONDITIONER: FL/WALL A/C AC 208V 50-60CY 3PH 36000BTU CM	A24763	136	353
COMPUTER SET DIGITAL: AN/GYK-62	C13866	549	643	COMPUTER SET: DIGITAL (JBC-P) AN/GYK-62G	C05037	1003	1031
COMPUTER SET DIGITAL: AN/GYK-65	C78804	78	147	COMPUTER SET DIGITAL: AN/GYK-62	C13866	549	643
COMPUTER SYSTEM: DIGITAL AN/UJQ-90(V)3	C78851	487	632	COMPUTER SET: DIGITAL (JBC-P LOG) AN/UJQ-90B(V)5	C05054	554	595
DISTRIBUTION SYSTEM ELEC: 120V 1PH 60AMP	F55553	2212	2236	DISTRIBUTION SYSTEM ELEC: 120/208V 3PH 40AMP	F55485	1481	1290
GN ST DED 10KW 50/60HZ: SKID-MTD	G07461	863	872	GEN SET: DED SKID MTD 10KW 60HZ	G74711	1023	1680
GENERATOR SET: DIESEL ENGINE TRAILER PU-807A	G17528	0	0	GEN ST DSL ENG TM: 100KW 60HZ MTD ON M353 PU-495	J5801	0	3
GEN SET: DED SKID MTD 3KW 60HZ	G18358	6048	6526	GEN SET: DED SKID MTD 5KW 60HZ	G11966	1514	1694
GEN SET DID 5KW 50/60HZ: SKID-MTD	G42488	510	681	GEN SET: DED SKID MTD 5KW 60HZ	G11966	1514	1694
GEN ST DED15KWW 50/60HZ: SKID-MTD	G49966	181	142	GEN SET: DED SKID MTD 15KW 50/60HZ	G12170	182	241
GEN SET DE 60KWW 50/60HZ: SKID-MTD	G63256	48	67	GEN SET: DED SKID MTD 60KW 50/60HZ	G12034	111	369
LTT TRAILER-MTD: PU-2001/5 KW/50/60 HZ	L26934	609	583	GEN SET DED TM: 5KW 60HZ MTD ON M116A2 PU-797	G42238	517	843
LTT TRAILER-MTD: PP-3001/5 KW/50/60 HZ	L27002	14	6	POWER PLANT ELEC DED TM: 5KW 60HZ AN/MJQ-35	P28083	2	26
LTT TRAILER-MTD: PP-3101/5 KW/50/60 HZM200A1	L27070	2	0	POWER PLANT ELEC DED TM: 5KW 60HZAN/MJQ-36	P28151	5	7
LTT TRAILER-MTD: PU-2002/10 KW/50/60HZ	L84622	673	618	GEN SET DED TM: 10KW 60HZ MTD ONM116A2 PU-798	G42170	823	1148
LTT TRAILER-MTD: PU-2012/10 KW/400HZ	L84758	5	5	GENERATOR SET DED TM: 10KW 400HZMTD ON M116A2 PU-799	G53403	1	13
NAVIGATION SET: SATELLITE SIGNALS AN/GSN-13	N96180	3	0	SURVEYING SET: AN/GSN-16	S05053	10	23
POWER PLANT ELEC DED TM: 5KW 60HZ AN/MJQ-35	P28083	2	26	GEN SET DED TM: 5KW 60HZ MTD ON M116A2 PU-797	G42238	517	843
POWER SUPPLY: PP-2953JU	P38588	30	461	POWER SUPPLY: PP-6224/U	P40750	10303	5381
POWER SUPPLY: PP-6224/U	P40750	10322	5381	POWER SUPPLY: PP-2953/U	P38588	10303	461
SHELTER: NONEXPANDABLE S250	S01427	159	182	SHELTER: NONEXPD LTRWR MP RIGID -WALL S788 102LX84WX67H MTD H	S01563	85	139
TRAILER-MTD: PP-3102/10 KW/50/60HZM200A1	T39849	145	92	POWER PLANT: DIESEL TRU/MTD 10KW60HZ AN/MJQ-37	P42262	1	100
TRAILER-MTD: PP-3105/30 KW/50/60 HZ 2M200A1	T39917	61	44	POWER PLANT: ELECTRIC TRAILER MTD 30KW 50/60HZ AN/MJQ 40	P42126	26	65

# ARNG Major Item of Equipment Substitution List

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TRAILER-MTD: PU-2102/30 KW/50/60 HZ/M200A1	T39954	200	154	GENERATOR SET DIESEL ENGINE TM: PU-803	G35851	104	218
TRAILER-MTD: PU-2111/15 KW/400 HZ/M200A1	T40022	0	0	GENERATOR SET: DED TM 15KW 400HZTRL MTD	G78203	0	0
TRAILER-MTD: PU-2101/15 KW/50/60 HZ/M200A1	T40090	583	527	GENERATOR SET DIESEL ENGINE TM: PU-802	G53778	607	818
TRAILER-MTD: PU-2103/60 KW/50/60 HZ/M200A1	T60034	56	19	GENERATOR SET: DIESEL TRL/MTD 60KW 50/60HZ PU805 CHASSIS W/F	G78306	100	183
TRAILER-MTD: PU-2112/30 KW/400HZ/M200A1	T93300	0	0	GENERATOR SET DIESEL ENGINE TM: PU-804	G35919	0	0
<b>BATTLESPACE AWARENESS</b>							
CENTRAL: COMMUNICATIONS AN/TSQ-226(V)3	C43399	47	47	CENTRAL: COMMUNICATIONS AN/TSQ-226(V)1	C43263	8	8
<b>BC TRANSPORT NETWORKS</b>							
CRYPTOGRAPHIC SPEECH EQUIPMENT: MTU TSEC/KY 100 AIRTERM	C52700	1078	1223	SPEECH SECURITY EQUIPMENT 28V RED: TSEC/KY58	S01441	1078	2001
KY-99: MINTERM	K47623	188	393	SPEECH SECURITY EQUIPMENT: TSEC/KY-57	S01373	565	559
MBMMR: AN/PSC-5D	M27420	17	308	RADIO SET: AN/PSC-5	R57606	3906	1123
RADIO SET: AN/VRC-89F(C)	R44999	4401	4846	RADIO SET: AN/VRC-91F(C)	R68146	10735	11405
RADIO SET: AN/PRC-104A	R55200	192	44	RADIO SET: AN/VRC-104(V)5	R44706	0	115
RADIO SET: AN/PSC-5	R57606	3906	1123	MBMMR: AN/PSC-5D	M27420	17	308
RADIO SET: AN/VRC-87F(C)	R67296	733	702	RADIO SET: AN/VRC-88F(C)	R67330	737	1099
RADIO SET: AN/VRC-91F(C)	R68146	10735	11405	RADIO SET: AN/VRC-89F(C)	R44999	4401	4846
RADIO SET: AN/PRC-119F(C)	R83141	8869	9770	RADIO ST:	R55336	13674	11984
RADIO SET: AN/VRC-104(V)6 150 WATT W/ PRC-150 HF RADIO	R87139	4638	3277	RADIO SET: AN/VRC-104(V)5	R44706	0	115
SPEECH SECURITY EQUIPMENT: TSEC/KY-57	S01373	565	559	KY-99: MINTERM	K47623	188	393
<b>CBT MOBILITY</b>							
BOAT BRIDGE ERECTION INBOARD ENGINE: SHALLOW DRAFT	B25476	0	57	BOAT: BRIDGE ERECTION	B05006	154	121
DETECTING SET: MINE AN/PSS-14	D03932	6088	2283	DETECTING SET MINE: PTBL METALLIC (AN/PSS-11)	G02341	208	2958
DETECTING SET MINE: PTBL METALLIC (AN/PSS-11)	G02341	208	2958	DETECTING SET: MINE AN/PSS-14	D03932	6088	2283
LOADER SCOOP TYPE: DSL 2-1/2CU YD HINGE FRME W/MULTI PURP BU	L76556	41	236	LOADER SCOOP TYPE: 2.5 CUBIC YARD	L76897	111	169
LOADER SCOOP TYPE: 2.5 CUBIC YARD	L76897	111	169	LOADER SCOOP TYPE: DSL 2-1/2CU YD HINGE FRME W/MULTI PURP BU	L76556	41	236
TRANSPORTER COMMON BRIDGE:	T91308	616	467	TRANSPORTER: COMMON BRIDGE (CBT) M1977A4	T05067	8	188
<b>FIELD LOG</b>							
ASSAULT KTCHN: (AK)	A94943	702	745	KITCHEN: COMPANY LEVEL FIELD FEEDING	K28601	12	138
CONTAINERIZED KITCHEN: CK	C27633	204	400	KITCHEN FIELD TRAILER MOUNTED: MTD ON M103A3 TRAILER	L28351	632	563
FORWARD AREA REFUELING SYSTEM: ADVANCED AVIATION (AAFARS)	F42611	121	111	FORWARD AREA REFUELING EQUIPMENT: (FARE)	H94824	40	19
FORWARD AREA WATER POINT SUPPLY SYSTEM: (FAW SS)	F42612	46	237	LOAD HANDLING SVS (LHS): 2000 GAL COMP WATER TANK-RACK (HIPP)	T32629	1194	474
ELECTRONIC SHOP SEMITRAILER MOUNTED: AN/ASM-189 LESS POWER	H01855	100	143	ELECTRONIC SHOP SHELTER MOUNTED AVIONICS: AN/ASM-146 LESS PO	H01907	799	667
ELECTRONIC SHOP SHELTER MOUNTED AVIONICS: AN/ASM-146 LESS PO	H01907	799	667	ELECTRONIC SHOP SEMITRAILER MOUNTED: AN/ASM-189 LESS POWER	H01855	100	143
ELECTRONIC SHOP SHELTER MOUNTED AVIONICS: AN/ASM-147 LESS PO	H01912	177	195	ELECTRONIC SHOP SEMITRAILER MOUNTED: AN/ASM-190 LESS POWER	H01857	25	35
KITCHEN: COMPANY LEVEL FIELD FEEDING	K28601	12	138	ASSAULT KTCHN: (AK)	A94943	702	745
KITCHEN FIELD TRAILER MOUNTED: MTD ON M103A3 TRAILER	L28351	2	563	CONTAINERIZED KITCHEN: CK	C27633	204	400

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MOBILE INTEGRATED REMAINS: COLLECTION SYSTEM	M57970	2	2	CONTAINER ASSEMBLY REFRIGERATED: 8X8X20 W/9000 BTU REF UNIT	C84541	0	2
OSCILLOSCOPE DC-100MHZ: AN/USM-488	P30693	15	454	OSCILLOSCOPE: OS-303 G (TEMOD)	P32409	6	171
ROUGH TERRAIN CONTAINER HANDLER (RTCH): KALMAR RT240	R16611	35	96	TRUCK LIFT FORK: DED 50000 LB CONT HDLR ROUGH TERRAIN 48 IN	T48941	6	5
SHOP EQUIPMENT MACHINE SHOP: FM BASIC LESS POWER	T15644	49	61	SHOP EQUIPMENT MACHINE SHOP: FM HEAVY LESS POWER	T15640	0	30
LOAD HANDLING SYS (LHS): 2000 GAL COMP WATER TANK-RACK (HIPP	T32629	1194	474	FORWARD AREA WATER POINT SUPPLY SYSTEM: (FAW SS)	F42612	46	237
TRUCK LIFT FORK: DED 50000 LB CONT HDLR ROUGH TERRAIN 48 IN	T48941	6	5	ROUGH TERRAIN CONTAINER HANDLER (RTCH): KALMAR RT240	R16611	35	96
TRUCK LIFT FORK: DSL DRVN 4000 LB CAP ROUGH TERRAIN	T49255	19	302	LIGHT CAPABILITY ROUGH TERRAIN FORKLIFT (LCRTF): 5K	L05010	526	466
TRUCK TRACTOR: YD 46000 GVW 4X2	T60353	0	3	TRUCK TRACTOR: LINE HAUL C/S 50000 GVWR 6X4 M915	T61103	180	1270
TEST KIT MASK PROTECTIVE: M41	T62350	1016	1727	TEST KIT MASK PROTECTIVE: M41A1	T05093	38	883
TEST SET RADIO FREQUENCY POWER: AN/USM-491	T89944	328	68	WATTMETER TEST SET: TS-3793/U	W39339	6	56
SHOP EQUIPMENT AUTO MAINT AND REPAIR: OM COMMON NO 2 LESS PO	W32730	0	21	SHOP EQUIPMENT: AUTOMOTIVE VEHICLE	S25885	878	899
TRUCK LIFT FORK: ELEC-4000 LB 144 IN LH 68IN COLLAPS HGT	X50436	0	1	TRUCK LIFT FORK: ELEC 6000 LB 127 IN LH	X50832	0	0
TRUCK LIFT FORK: GAS 4000LB 144 IN LH 68 IN COLLAPS HGT	X51585	0	12	TRUCK LIFT FORK: DSL DRVN 4000 LB CAP ROUGH TERRAIN	T49255	19	302
WELDING MACHINE ARC: GEN GAS DRVN 300AMP DC SKID MTD CC CP	Y46234	0	3	WELDING MACHINE ARC: SHID MTD DC CC/CV 350A	W47364	0	31
<b>FORCE PROTECTION</b>							
ALARM: CHEMICAL AGENT AUTOMATIC M22	A33020	65	66	JOINT CHMCL AGENT: DETECTOR	J00697	21922	22154
MASK CHEMICAL BIOLOGICAL: M40	M12418	1059	1690	MASK CHEMICAL BIOLOGICAL: JOINT SERVICE GENERAL PURPOSE: FIELD	M12986	268421	300978
MASK CHEMICAL BIOLOGICAL: JOINT SERVICE GENERAL PURPOSE: FIELD	M12986	268421	300978	MASK CHEMICAL BIOLOGICAL: M40	M12418	1059	1690
MASK CHMCL-BLGL JNT SRV GNL PRPSE: CMBT VHL CRWMN M51	M13236	19349	23923	MASK CHEMICAL BIOLOGICAL: COMBATVEHICLE M42	M18526	20	339
<b>GEN ENGINEERING</b>							
DIVING EQUIPMENT SET: INDIVIDUAL SWIMMER SUPPORT SCUBA	D49154	72	75	DIVING EQUIPMENT SET: SURFACE SWIMMERS SUPPORT	D49494	0	12
EXCAVATOR: HYDRAULIC (HYEX) TYPE I MULTIPURPOSE CRAWLER MOUN	E27792	194	161	EXCAVATOR: HYDRAULIC (HYEX) TYPE III MULTIPURPOSE CRAWLER MO	E27860	7	15
EXCAVATOR: HYDRAULIC (HYEX) TYPE III MULTIPURPOSE CRAWLER MO	E27860	7	15	EXCAVATOR: HYDRAULIC (HYEX) TYPE I MULTIPURPOSE CRAWLER MOUN	E27792	194	161
GRADER ROAD MOTORIZED: DSL DRVN HVY (CCE)	G74783	15	175	MOTORIZED GRADER:	M05001	370	389
MOTORIZED GRADER:	M05001	370	389	GRADER ROAD MOTORIZED: DSL DRVN HVY (CCE)	G74783	15	175
SCRAPER EARTH MOVING SELF-PROPELLED: 14-18 CU YD (CCE)	S66246	0	62	SCRAPER EARTHMOVING: 14-18 CU YD	S05029	298	266
TRACTOR FULL TRCKD LOW SPD: DSL MED DBP W/BULDOZ WISCARIF WI	W76816	6	85	TRACTOR FULL TRKD LOW SPD: T9	T05015	233	262
TRACTOR FULL TRCKD LOW SPD: DSL MED DBP W/BULDOZ WISCARIF RI	W83529	13	67	TRACTOR FULL TRCKD LOW SPD: DSL MED DBP W/BULDOZ WISCARIF WI	W76816	6	85
<b>MANUEVER CBT VEH</b>							
CARRIER ARMORED COMMAND POST: FULL TRACKED	C11158	395	362	CARRIER COMMAND POST: LIGHT TRACKED	D11538	46	134
CARRIER PERSONNEL FULL TRACKED: ARMORED (RISE)	C18234	498	482	CARRIER COMMAND POST: LIGHT TRACKED	D11538	46	134
CARRIER COMMAND POST: LIGHT TRACKED	D11538	46	134	CARRIER ARMORED COMMAND POST: FULL TRACKED	C11158	395	362
FIGHTING VEHICLE: FULL TRACKED INFANTRY HI SURVIVABILITY (IF	F40375	0	8	OPERATION DESERT STORM (ODS) SITUATIONAL-AWARENESS (SA): M2A	P19727	250	400
FIGHTING VEHICLE: FULL TRACKED INFANTRY (IFV) M2A3	F60564	375	290	FIGHTING VEHICLE: FULL TRACKED INFANTRY HI SURVIVABILITY (IF	F40375	0	8
FIRE SUPPORT VEHICLE: (FSV)	F86821	26	28	FIRE SUPPORT VEHICLE: DOUBLE V HULL (FSV)	F05013	0	0
OPERATION DESERT STORM (ODS) SITUATIONAL AWARENESS (SA): M2A	P19727	250	400	FIGHTING VEHICLE: FULL TRACKED INFANTRY (IFV) M2A3	F60564	375	290

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RECONNAISSANCE VEH: (RV)	R62673	114	104	INFANTRY CARRIER: VEHICLE (ICV)	J22626	260	280
TANK COMBAT FULL TRACKED: 120MM GUN M1A2	T13305	174	165	TANK COMBAT FULL TRACKED: 120 MILLIMETER GUN	T13168	174	308
<b>MANEUVER SYSTEMS</b>							
LAUNCHER GRENADE ARMAMENT SUBSYSTEM: M257	L44031	755	1468	LAUNCHER GRENADE ARMAMENT SUBSYSTEM: SCREEN RP M259	L44748	398	549
LAUNCHER GRENADE SMOKE: SCREENING RP M250	L44680	566	501	LAUNCHER GRENADE ARMAMENT SUBSYSTEM: SCREENING RED PHOSPHO M	L44612	373	501
<b>MEDICAL FIELD SYSTEMS</b>							
ANALYZER NON-INVAS BLOOD PRESS: (ANBP)	A27104	21	23	MEDICAL VITAL SIGNS SIMULATOR (MVSS);	M05038	7	2
MONITOR PATIENT VITAL SIGNS: (MVS)	M66626	311	575	MONITOR PATIENT VITAL SIGNS;	M66558	632	8
SIMULATOR MEDICAL FUNCTIONS: BATTERY OP PORT SELF-CONTAINED	S56720	23	27	MEDICAL VITAL SIGNS SIMULATOR (MVSS);	M05038	7	2
SIMULATOR PULSE OXIMETRY:	S57953	23	30	MEDICAL VITAL SIGNS SIMULATOR (MVSS);	M05038	7	2
<b>SOLDIER SYSTEMS</b>							
BAYONET MULTIPURPOSE SYSTEM: XM9	B49004	138350	166610	BAYONET-KNIFE: W/SCABBARD FOR M16A1 RIFLE	B49272	106371	79367
BAYONET-KNIFE: W/SCABBARD FOR M16A1 RIFLE	B49272	106371	79367	BAYONET MULTIPURPOSE SYSTEM: XM9	B49004	138350	166610
BINOCULAR: M25	B67907	5602	5839	M25A1: STABILIZED BINOCULAR	M05036	384	301
M25A1: STABILIZED BINOCULAR	M05036	384	301	BINOCULAR: M25	B67907	5602	5839
MINI EYESAFE LASER INFRARED OBSERVATION SET (MELIOS): AN/PVS	M74849	2649	1993	TARGET LOCATOR MODU;	T27471	3415	1257
MOUNT TRIPOD MACHINE GUN: HEAVY CALIBER 50	M75577	177	3903	M205: MACHINE GUN TRIPOD	X05002	22436	23039
MONOCULAR NIGHT VISION DEVICE: AN/PVS-14	M79678	34574	190671	NIGHT VISION: GOGGLE	N05482	176140	23039
NIGHT VISION SIGHT CREW SERVED WEAPON: AN/TVS-5	N04596	24	252	MEDIUM WEAPON THERMAL SIGHT (MWTS): AN/PAS-13(V)2	S90535	26718	26891
NIGHT VISION SIGHT INDIVIDUAL SERVED WEAPON: AN/PVS-4	N04732	45	44	SIGHT: THERMAL AN/PAS-13B(V)1	S60356	13412	14814
NIGHT VISION: GOGGLE	N05482	176140	30483	MONOCULAR NIGHT VISION DEVICE: AN/PVS-14	M79678	34574	190671
PARACHUTE PERSONNEL TROOP BACK: 35 FT TYPE T-10	N67925	0	0	T-11: PERSONL PARACHT SYSTM	T91035	1399	1772
SIGHT: REFLEX COLLIMATOR	S60288	227046	229705	SIGHT BORE OPTICAL: M150	S45729	55204	62737
SIGHT: THERMAL AN/PAS-13B(V)1	S60356	13412	14814	NIGHT VISION SIGHT INDIVIDUAL SERVED WEAPON: AN/PVS-4	N04732	45	44
MEDIUM WEAPON THERMAL SIGHT (MWTS): AN/PAS-13(V)2	S90535	26718	26891	NIGHT VISION SIGHT CREW SERVED WEAPON: AN/TVS-5	N04596	24	252
HEAVY WEAPON THERMAL SIGHT (HWTS): AN/PAS-13(V)3	S90603	23746	25890	NIGHT VISION SIGHT CREW SERVED WEAPON: AN/TVS-5	N04596	24	252
M205: MACHINE GUN TRIPOD	X05002	22436	23039	MOUNT TRIPOD MACHINE GUN: HEAVY CALIBER 50	M75577	177	3903
<b>SOLDIER WPNS</b>							
CARBINE 5.56 MILLIMETER: M4A1	C06935	257235	276585	RIFLE 5.56 MILLIMETER: M16A2	R95035	0	276585
LAUNCHER GRENADE: M320	L03621	0	99	LAUNCHER GRENADE 40 MILLIMETER: SGLE SHOT RIFLE MTD DTCHBLE	L44595	0	192
LAUNCHER GRENADE: M320A1	L69080	23146	23705	LAUNCHER GRENADE: M203A2	L69012	0	204
MACHINE GUN CALIBER .50: HB FLEXIBLE (GROUND AND VEHICLE) W/	L91975	87	502	MACHINE GUN: CALIBER 50	M39331	15631	15038
MACHINE GUN 5.56 MILLIMETER: M249	M09009	24379	26818	MACHINE GUN: LIGHT 5.56MM M249	M39263	6424	5255
MACHINE GUN: LIGHT 5.56MM M249	M39263	6424	5255	MACHINE GUN 5.56 MILLIMETER: M249	M09009	24379	26818
MACHINE GUN: CALIBER 50	M39331	15631	15038	MACHINE GUN CALIBER .50: HB FLEXIBLE (GROUND AND VEHICLE) W/	L91975	87	502
MACHINE GUN 7.62 MILLIMETER: M240L	M92454	4055	4019	MACHINE GUN: 7.62MM M240B	M92841	10770	12095

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PISTOL 9 MILLIMETER: M11	P47365	277	217	PISTOL, MODULAR: XM-18 COMPACT	P05042	23	291
PISTOL 9MM AUTOMATIC: M9	P98152	12217	9334	PISTOL, MODULAR: XM-17	P05043	47514	67256
RIFLE 5.56 MILLIMETER: M16A2	R95035	440	1848	RIFLE: 5.56MM M16A4	R97175	0	2243
RIFLE: 5.56MM M16A4	R97175	0	2243	RIFLE 5.56 MILLIMETER: M16A2	R95035	440	1848
RIFLE 5.56 MILLIMETER: M4	R97234	0	779	CARBINE 5.56 MILLIMETER: M4A1	C06935	257235	276585
SHOTGUN: 12 GAGE	S40541	2111	2873	SHOTGUN 12 GAUGE RIOT TYPE: 20 INCH BARREL	T39223	6822	7084
<b>STRIKE</b>							
HOWITZER LIGHT TOWED: M119A2	H57505	0	3	HOWITZER LT TOWED: M119A3	H05007	240	261
RANGE FINDER-TARGET DESIGNATOR: AN/PED-1B (LLDR 2/H)	R05028	391	392	RANGE FINDER-TARGET DESIGNATOR: LASER AN/PED-1	R60282	566	434
<b>SUPPORT SYSTEMS</b>							
CONTAINER HANDLING:	C27294	31	571	CONTAINER HANDLING: CONTAINER HANDLING UNIT (CHU)	C84862	80	48
CONTAINER HANDLING: CONTAINER HANDLING UNIT (CHU)	C84862	80	48	CONTAINER HANDLING:	C27294	31	571
CONTAINER HANDLING: HEAVY EXP MOBIL TACT TRK (HEMTT)	C84930	4	29	CONTAINER HANDLING:	C27294	31	571
HOWITZER SALUTING: 75 MILLIMETER	K58214	0	61	HOWITZER LIGHT TOWED: 105 MILLIMETER	K57392	0	31
PARACHUTE CARGO: 100 FT DIA G-11B VENT CONTROL SYSTEM	N66560	1610	151	PARACHUTE-CARGO TYPE:100-FOOT DIAMETER:(MODEL: G-16)	P05059	0	0
RAILWAY CAR FLAT: 56-1/2 GA 80 TON DS FRT SERVICE	Q99824	0	0	RAILWAY CAR FLAT: 56-1/2 GA 30-50 TON DS	Q99687	0	0
SPECIAL SEARCH DOG: (SSD)	S05024	0	0	DOG PATROL: EXPLOSIVES DETECTOR	G33732	5	6
<b>TRAILERS</b>							
SEMITRAILER TANK: 5000 GAL BULK HAUL SELF-LOAD/UNLOAD W/E	S10059	300	332	SEMITRAILER TANK: 5000 GAL FUEL DISPENSING AUTOMOTIVE W/E	S73372	136	221
SEMITRAILER FLAT BED: BREAKBULK/CONT TRANSPORTER 22-1/2 TON	S70027	3399	3663	SEMITRAILER FLATBED: BREAKBULK/CONTAINER TRANSPORTER CMRCIAL	S70159	3960	2977
TRAILER CARGO: MTV W/DROPSIDES M1095	T95555	6076	6123	TRAILER FLATBED: 5 TON 4 WHEEL GENERAL PURPOSE	T96883	0	72
TRAILER CARGO: HIGH MOBILITY 1-1/4 TON	T95924	5874	6124	LIGHT TACTICAL TRAILER: 3/4 TON	T95992	8385	9787
LIGHT TACTICAL TRAILER: 3/4 TON	T95992	8385	9787	TRAILER CARGO: HIGH MOBILITY 1-1/4 TON	T95924	5874	6124
TRAILER FLAT BED: M1082 TRLR CARGO LMTV W/DROPSIDES	T96564	3207	3745	TRAILER CARGO: 1-1/2 TON 2 WHEEL W/E	W95811	65	63
TRAILER FLATBED: 5 TON 4 WHEEL GENERAL PURPOSE	T96883	0	72	TRAILER CARGO: MTV W/DROPSIDES M1095	T95555	6076	6123
TRAILER CARGO: 1-1/2 TON 2 WHEEL W/E	W95811	65	63	TRAILER CARGO: MTV W/DROPSIDES M1095	T95555	6076	6123
<b>TRUCKS</b>							
TRUCK UTILITY: HEAVY VARIANT HMMWV 4X4 10000 GVW W/E	T07679	17535	14623	TRUCK UTILITY: M1152-EXPANDED CAPACITY ENHANCED	T11588	0	336
TRUCK UTILITY: M1152-EXPANDED CAPACITY ENHANCED	T11588	0	336	TRUCK UTILITY EXPANDED CAPACITY ENHANCED: M1152A1	T37588	3930	7599
TRUCK UTILITY EXPANDED CAPACITY ENHANCED: M1152A1	T37588	3930	7599	TRUCK UTILITY: M1152-EXPANDED CAPACITY ENHANCED	T11588	0	336
TRUCK AMBULANCE: 2 LITTER ARMED 4X4 W/E (HMMWV)	T38707	0	1	TRUCK AMBULANCE: 4 LITTER ARMED 4X4 W/E (HMMWV)	T38844	1632	1888
TRUCK AMBULANCE: 4 LITTER ARMED 4X4 W/E (HMMWV)	T38844	1632	1888	TRUCK AMBULANCE: 2 LITTER ARMED 4X4 W/E (HMMWV)	T38707	0	1
TRUCK UTILITY: EXPANDED CAPACITY ENHANCED M1165	T38873	0	34	TRUCK UTILITY EXPANDED CAPACITY ENHANCED 4X4: M1165A1	T56383	4426	7489
TRUCK CARGO: TACTICAL 8X8 HEAVY EXPANDED MOBILITY W/MED CRAN	T39586	135	170	TRUCK CARGO: TACTICAL 8X8 HEAVY EXPANDED MOBILITY W/MED CR	T39654	0	12
TRUCK CARGO: TACTICAL 8X8 HEAVY EXPANDED MOBILITY W/MED CR	T39654	0	12	TRUCK CARGO: TACTICAL 8X8 HEAVY EXPANDED MOBILITY W/MED CRAN	T39586	135	170
TRUCK CARGO: HEAVY PLS TRANSPORTER 15-16.5 TON 10X10	T40999	522	576	TRUCK CARGO: HEAVY PLS TRANSPORTER 15-16.5 TON 10X10 W/MHE W	T41067	41	138



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TRUCK CARGO: 5 TON 6X6 MTV W/E LAPES/AD	T41036	101	77	TRUCK CARGO: 5 TON 6X6 MTV W/E W/W LAPES/AD	T41104	15	13
TRUCK CARGO: HEAVY PLS TRANSPORTER 15-16.5 TON 10X10 W/MHE W	T41067	41	138	TRUCK PALLETIZED LOADING: M1074A1	T55236	235	141
TRUCK CARGO: 5 TON 6X6 MTV W/E W/W LAPES/AD	T41104	15	13	TRUCK CARGO: 5 TON 6X6 MTV W/E LAPES/AD	T41036	101	77
TRUCK CARGO: MTV W/E W/W	T41135	215	380	TRUCK CARGO: 5 TON 6X6 MTV W/E LAPES/AD	T41036	101	77
TRUCK CARGO: MTV W/MHE W/E	T41203	181	311	TRUCK CARGO: W/MHE W/OWINCH	T59584	759	621
TRUCK VAN: EXPANSIBLE MTV W/E M1087A1	T41271	3	73	TRUCK: EXPANDABLE VAN W/OWINCH	T67136	622	812
TRUCK CARGO: 5 TON W/OWINCH	T41515	6624	5347	TRUCK CARGO: LWB W/OWINCH	T93271	945	1244
TRUCK CARGO: 8X8 57000 G/W HIGH MOBILITY	T41721	0	0	TRUCK CARGO: M985A4 GMT	T59652	0	0
TRUCK CARGO: 2 1/2 TON 4X4 LMTV W/E LAPES/AD	T41995	109	114	TRUCK CARGO: 2 1/2 TON 4X4 LMTV W/E W/W LAPES/AD	T42063	8	4
TRUCK CARGO: 2 1/2 TON 4X4 LMTV W/E W/W LAPES/AD	T42063	8	4	TRUCK CARGO: 2 1/2 TON 4X4 LMTV W/E LAPES/AD	T41995	109	114
TRUCK: MATERIALS HANDLING-CONTAINER	T45435	4	0	TRUCK CARGO: 2 1/2 TON 4X4 LMTV W/E W/W LAPES/AD	T54516	0	0
TRUCK UTILITY EXPANDED CAPACITY ENHANCED 4X4: M1165A1	T56383	4426	7489	TRUCK MATERIALS HANDLING-CONTAINER HOISTING: M1148A1P2	T38873	0	34
TRUCK TANK: FUEL SERVICING 2500 GALLON 8X8 HEAVY EXP MOB W/W	T58161	0	187	TRUCK UTILITY: EXPANDED CAPACITY ENHANCED M1165	T58318	1896	1467
TRUCK CARGO: TACTICAL 8X8 HEAVY EXPANDED MOBILITY W/LT CRANE	T59278	2	51	TRUCK TANK: W/OWINCH	T39586	135	170
TRUCK TRACTOR W/MAIN RECOVERY WINCH: M983A2 LET	T59415	0	5	TRUCK CARGO: TACTICAL 8X8 HEAVY EXPANDED MOBILITY W/MED CRAN	T60946	1254	1301
TRUCK CARGO: W/OWINCH	T59448	4672	4124	TRUCK TRACTOR: (LET)	T42131	0	373
TRUCK CARGO: M977A4	T59532	84	152	TRUCK CARGO: 2.5 TON W/OWINCH	T59380	40	374
TRUCK CARGO: 4X4 LMTV W/E	T60081	2423	2959	TRUCK CARGO: M985A4	T41995	109	114
TRUCK CARGO: 4X4 LMTV W/E W/W	T60149	120	367	TRUCK CARGO: 2 1/2 TON 4X4 LMTV W/E LAPES/AD	T42063	8	4
TRUCK TRACTOR: LINE HAUL C/S 50000 G/W/R 6X4 M915	T61103	180	1270	TRUCK CARGO: 2 1/2 TON 4X4 LMTV W/E W/W LAPES/AD	T88858	1860	1020
TRUCK TRACTOR: MTV W/E	T61239	434	1209	TRACTOR LIN HAUL: M915A5	T61307	88	97
TRUCK TRACTOR: MTV W/E W/W	T61307	88	97	TRUCK TRACTOR: MTV W/E W/W	T61239	434	1209
TRUCK TRACTOR: M1088A1P2 W/OWINCH	T61375	0	21	TRUCK TRACTOR: MTV W/E W/W	T61307	88	97
TRUCK UTILITY: EXPANDED CAPACITY 4X4 W/E HMMWV M1113	T61630	1589	757	TRUCK UTILITY: HEAVY VARIANT HMMWV 4X4 10000 G/W/W/E	T07679	17535	14623
TRUCK CARGO: MTV LWB W/E W/W	T61772	0	7	TRUCK CARGO: MTV W/E W/W	T41135	215	380
TRUCK CARGO: MTV W/E	T61908	407	2638	TRUCK CARGO: 5 TON 6X6 MTV W/E LAPES/AD	T41036	101	77
TRUCK WRECKER: TACTICAL 8X8 HEAVY EXPANDED MOBILITY W/OWINCH	T63093	51	517	TRUCK WRECKER: M984A4	T63161	1026	808
TRUCK DUMP: MTV W/E	T64911	2	9	TRUCK DUMP: 10 TON W/OWINCH	T65342	1037	1373
TRUCK DUMP FMTV: 10 TON	T65047	0	5	TRUCK DUMP: 10 TON W/OWINCH	T65274	273	340
TRUCK DUMP (FMTV) 10 TON: M1157	T65115	0	6	TRUCK DUMP: 10 TON W/OWINCH	T65274	273	340
TRUCK DUMP: 5 TON 6X6 MTV W/E LAPES/AD	T65526	0	8	TRUCK DUMP: 5 TON 6X6 MTV W/E W/W LAPES/AD	T65594	0	0
TRUCK TANK: FUEL SERVICING 2500 GALLON 8X8 HEAVY EXP MOB	T87243	15	753	TRUCK TANK: FUEL SERVICING 2500 GALLON 8X8 HEAVY EXP MOB W/W	T58161	0	187
TRUCK TRACTOR: TACTICAL 8X8 HEAVY EXPANDED MOBILITY W/OWINCH	T88677	0	0	TRUCK TRACTOR: M983A4	T88915	0	0
TRUCK TRACTOR: LET 6X6 66000 G/W W/W C/S	T91656	44	420	TRUCK TRACTOR: (LET)	T60946	1254	1301
TRUCK CARGO: LWB W/OWINCH	T93271	945	1244	TRUCK CARGO: LWB W/OWINCH	T93339	0	1
TRUCK CARGO: LWB W/OWINCH	T93339	0	1	TRUCK CARGO: LWB W/OWINCH	T93271	945	1244

**ARNG  
Major Item of Equipment Substitution List**

Required Item Nomenclature	Reqd Item Equip. No.	LIN Req	Qty AUTH OH	Substitute Item Nomenclature	Substitute Item Equip. No.	SUBLIN Req	SUBLIN OH
TRUCK VAN: LMTV W/E	T93484	22	129	TRUCK VAN: M1079A1P2 WO/WINCH	T62359	583	761
TRUCK WRECKER: MTV W/E WW	T94709	19	200	TRUCK WRECKER: TACTICAL 8X8 HEAVY EXPANDED MOBILITY WWINCH	T63093	51	517
TRUCK CARGO: TACTICAL 8X8 HEAVY EXPANDED MOB W/LHS	T96496	62	710	TRUCK PALLETIZED (LHS): M1120A4	T55054	2469	2173

**Significant Major Item Shortages**

*NOTE: This table provides a RC top ten prioritized (PR) shortage list for major equipment items required for wartime missions. It lists the total quantity required, the total shortfall, the individual item cost, and the cost of the shortfall. This data is consistent with other equipment data submitted by the Service.*

PR	Nomenclature	Total Req'd	# Items Short	Item Cost	Total Shortage Cost	Rationale/Justification
1	HELICOPTER UTILITY: UH-60M	300	4	\$21,812,860	\$87,251,440	Though ARNG will be technically short H-60V in FY24, the ARNG H-60 fleet will not be short and a fielding plan has been established to modernize the H-60 fleet
2	TRUCK UTILITY: HEAVY VARIANT HMMWV 4X4 10000 GVW W/E	17,632	3,009	\$94,171	\$283,360,539	
3	TRUCK CARGO: 5 TON WO/WINCH	6,875	1,528	\$205,000	\$313,240,000	
4	HELICOPTER UTILITY UH-60V	30	22	\$9,000,000	\$198,000,000	Though ARNG will be technically short H-60V in FY24, the ARNG H-60 fleet will not be short and a fielding plan has been established to modernize the H-60 fleet
5	BLACK HAWK EXTERNAL AUXILIARY FUEL SYSTEM	254	254	\$954,679	\$242,488,466	TPE
6	WARNING RECEIVER SYSTEM: COUNTERM	546	546	\$377,000	\$205,842,000	TPE
7	WARNING RECEIVER SYSTEM COUNTERM: AN/AAR-57	449	448	\$452,000	\$202,496,000	TPE
8	MULTIPLE LAUNCH ROCKET SYSTEM: (MLRS) M270A1 IMPROVED LAUNCHER	43	9	\$5,353,000	\$48,177,000	
9	AIRPLANE CARGO-TRAN: C-12F	48	15	\$8,000,000	\$120,000,000	

**Significant Major Item Shortages**

PR	Nomenclature	Total Req'd	# Items Short	Item Cost	Total Shortage Cost	Rationale/Justification
10	TERMINAL VIDEO MULTIFUNCTIONAL REMOTE UAS: AN/USQ-210	1,306	158	\$448,000	\$70,784,000	
11	SEMITRAILER FLATBED: BREAKBULK/CONTAINER TRANSPORTER CMRCIAL 34T	3,960	983	\$105,069	\$103,282,827	
12	TRUCK CARGO: WO/WINCH	4,723	599	\$185,000	\$110,815,000	

### III. Army Reserve Overview

#### A. Current Status of the Army Reserve

##### 1. General Overview

America’s Army Reserve is a community-based, global operational force with a presence in all 50 States, five U.S. Territories, and 30 countries. It spans the globe with over 200,000 Soldiers and Civilian employees and more than 2,000+ units in 20 different time zones. The Army Reserve comprises more than three quarters of the Army’s sustainment capabilities, a fifth of its organized units, nearly half of its total maneuver support, and a quarter of its mobilization base expansion capacity. With the mantra of “READY NOW! SHAPING TOMORROW...,” the priorities of the Chief of Army Reserve and Commanding General, U.S. Army Reserve Command are People, Readiness, and

Modernization. The Army Reserve is focused on manning, equipping, and training formations to support our Combatant Commanders by deploying critical enabling capabilities within days or weeks and developing the future capabilities required to support a Multi-Domain Operations (MDO) Capable Force (2030) and MDO Ready Force (2035). America’s Army Reserve supports U.S. national security interests by providing key and essential capabilities that the Total Army and the Joint Force need to compete and win.

##### Top Army Reserve Focus Areas

- **Resourcing:** Optimize processes and prioritization to deliver modern enabler capabilities to support multi-domain operations, including the risk-informed divestiture of legacy equipment.
- **Readiness:** Invest in responsive capabilities to enhance equipping posture for day-to-day competition, large scale combat operations, Homeland Defense, and Defense Support to Civil Authorities.
- **Modernizing:** Advocate for developing future enabler capabilities to accelerate interoperability and holistically identify/forecast resource gaps.

##### a. The Army Reserve as an Operational Force

*“Meeting the challenges of a complex global security environment requires an agile and adaptable force committed to our Nation, its people, and its ideals. In cities and communities across America, these Soldiers and leaders are the men and women of the U.S. Army Reserve. The Army Reserve provides quick access to trained, equipped, and ready Soldiers and units, with the critical enabling capabilities needed to compete globally and win across the full range of military operations. The Army provides the bulk of sustainment and enabling forces to the other services, and most of those capabilities reside in the Army Reserve. Simply put, the Joint Force cannot deploy, fight, and win without the Army Reserve.”*

**–LTG Jody J. Daniels, Chief of Army Reserve & Commanding General,  
U.S. Army Reserve Command**

The Army Reserve provides quick access to the mission-capable forces and capabilities that the Army needs to build expeditionary combat power and sustain a campaign-capable force. Throughout its storied history of service in wars, contingency operations, and in support of domestic emergencies, the Soldiers of America's Army Reserve have never failed to answer the nation's call. Evolving from a small corps of medical professionals to a global operational reserve force, the Army Reserve has developed into a relevant and skilled operational reserve. As the Army Reserve looks to the challenges of the future, modernization and lifecycle sustainment of critical equipment is imperative to fully support MDO on multiple fronts. The Army Reserve must remain interoperable with the Total Army and fully capable of providing enabling functions in MDO. The Army equipment modernization strategy focuses on developing next generation combat vehicles, aerial platforms, network communications, precision fires, and Soldier systems. However, enabler capabilities and capacities must evolve for the Army to achieve the transformation goals that are required to fight and win on a complex battlefield against near-peer competitors.

Our strategy is to concentrate equipping priorities on units that are identified as the early entry and theater-opening forces most critical to setting the conditions for and sustaining combat operations. Other Army Reserve units will remain sized, trained, and postured to provide operational and strategic depth for the full scope of contingency missions. As part of the Joint Force, rapidly generating and deploying capable units requires the most modern equipment available to close interoperability gaps and ensure the same level of survivability, lethality, mobility, and network connectivity.

Predictable and balanced resourcing for equipment modernization is required to meet these objectives, particularly as the Army seeks to harness the rapid pace of technological advancements. The 75th Innovation Command (IC) drives operational innovation, concepts, and capabilities to enhance the readiness and lethality of the Future Force by leveraging the unique skills, agility, and private sector connectivity of America's Army Reserve. The 75th IC increases in relevance and criticality as the Army Reserve modernizes its force in concert with DoD and Army modernization priorities.

#### **b. Homeland Defense (HD) and Defense Support of Civil Authorities (DSCA)**

America's Army Reserve is uniquely postured with Soldiers and equipment in over 1,100 communities to employ capabilities critical to HD and DSCA, including search and rescue, aviation, engineer, transportation, medical, water and fuel distribution, and communications support. The Army Reserve provides an immediate and deliberate response to DSCA demands. These responses are conducted under different authorities, and the source of the support requested varies. The Army Reserve provided personnel and equipment to support numerous natural disaster response and search and rescue missions over the past year. Highlights include:

- In support of Operation Allies Welcome, more than 1,500 Army Reserve Soldiers and Emergency Preparedness Liaisons mobilized to seven stateside and overseas

installations at locations including Fort McCoy, WI, and Joint Base McGuire Dix Lakehurst, NJ.

- Since the start of the COVID-19 pandemic, the Army Reserve has mobilized extensive medical capabilities. Two 25-person Medical Care Augmentation Teams (MCAT) reinforced civilian medical treatment facilities. The MCATs followed the initial response where more than 20 Urban Augmentation Medical Task Forces, comprising 85 medical professionals, provided critical professional and expeditionary medical staff.
- Army Reserve Soldiers helped Fort Hood process thousands of Soldiers from all components for mobilization and deployment during the COVID-19 pandemic. Additional support included Religious Support Teams; command and control support by the 377th Theater Sustainment Command, 4th Expeditionary Sustainment Command, 416th Engineer Command, and 807th Medical Brigade Operational Command Post; and overseas mission support from the 7th and 9th Mission Support Commands.
- In 2021, at the request of civil authorities, Army Reserve Soldiers assisted in a search for missing persons in Haywood County, NC. They also responded to two separate power outages in Houston and Huntsville, TX, by delivering 1,600 and 800 gallons of water, respectively.

Readiness and availability of Army Reserve Critical Dual Use (CDU) equipment is essential to respond to HD and DSCA events. On-hand CDU equipment is 95 percent, including substitutes and 87 percent without substitutes, with the sum of equipment shortfalls exceeding \$1 billion. The Army Reserve is unable to perform all its wartime missions with the current CDU posture, but it can support HD and DSCA missions. The Army identified liquid logistics capability shortfalls as major drivers of operational risk during large scale combat operations (LSCO). The shortfalls of fuel and water systems in the Army Reserve present the largest risk, reducing the capability of petroleum and water units. However, these units can perform missions at a reduced capacity. Table 2-13 highlights the top Army Reserve CDU equipment shortage values by capability.

*Table 2-13. Army Reserve Top CDU Shortages*

Capability	Equipment Type	Shortage Value (\$M)
Engineering	Semitrailer Low Bed: (40 Ton)	\$81
Engineering	Heavy Dump Truck (20-Ton)	\$69
Logistics	3K Gallon Reverse Osmosis Water Purification Unit	\$56
Logistics	Load Handling System (LHS) 2000 Gallon Tank (HIPPO)	\$34
Transportation	M872A4 Semitrailer Flatbed: Transporter (34 Ton)	\$13

## 2. Current Status of Equipment

*“Modernization is not just about equipment—the Army does not man equipment, the Army equips Soldiers.”*

*–Army Modernization Strategy*

The Army Reserve’s equipment shortage has increased from \$4.3 billion to over \$4.6 billion over the past 12 months and it is forecasted to grow to \$4.99 billion in FY 2023. Although the Army Reserve continues to advocate for consistent and predictable equipping, we are unable to fill all critical requirements. Slow production rates and reset issues have resulted in shortages. The result is that units are unable to achieve the required equipment readiness levels until they are near or during deployment. The Army Reserve will likely see significant negative impacts to readiness levels as funding decisions result in equipment shortages and the Army overhauls the acquisition process to ensure we keep pace with our near-peer competitors.

### a. Equipment On-Hand

As an aggregate, the Army Reserve’s Equipment on Hand (EOH) is 88 percent without substitute items. The EOH climbs to 96 percent when substitute items are included. The 8 percent of substitute or in lieu equipment creates two issues: 1) substitute equipment may mask interoperability issues and create a false representation of readiness levels and 2) the equipment tends to be outdated, requiring comparatively more resources to sustain and crowding out other investments. This affects the ability of the Army Reserve to provide enabling capabilities, such as water purification and engineer construction, and the ability for units to execute mission command because they lack interoperability. The Army Reserve posture illustrates the inventory-based management approach of filling shortages through redistribution against legacy requirements. This approach places emphasis on aggregated quantities instead of documenting new requirements in advance to identify future capability gaps. This data is also indicative of the current resource prioritization model that slows the modernization rate for enabler systems by means of new procurement, creating mixed fleets that are more difficult to maintain and employ. In the near-term, developing future enabler systems will remain a low priority, which will create modernization and readiness challenges for key Army Reserve capabilities.

### b. Average Age of Major Items of Equipment

The average age of Army Reserve top legacy equipment is provided in Table 2-14. The average age of most of our top legacy equipment exceeds the equipment’s EUL. In some instances, the Army Reserve’s equipment dates to the Cold War Era, including bridging, armored personnel carrier, and bulk fuel assets. Equipment age has a direct correlation to higher failure rates, increased operational and maintenance costs, impacts to unit readiness, and potential impacts to whether a mission succeeds or fails.



Programmed replacements and rebuilding efforts are not able to keep up with the needs of the Army Reserve’s critical mission requirements.

Resourcing recapitalization and rebuild programs remains essential for incrementally replacing legacy systems and decreasing the average age of Army Reserve equipment. The Army Reserve continues to divest aging and obsolete equipment to reduce the average age and sustainment cost. Although the Army has improved the compatibility and modernization of Army Reserve equipment, some units maintain legacy equipment. Finding the right balance of divesting legacy equipment to save resources while maintaining a suitable level of on-hand equipment continues to be a challenge.

*Table 2-14. Army Reserve Top Legacy Equipment*

Nomenclature	Line Item Number	Average Age (Years)	Economic Useful Life (Years)
Armored Vehicle Launched Bridge	L43664	43	25–30
M113A3 Armored Personnel Carrier	C18234	37	25–30
Semitrailer Flatbed (34-Ton)	S70159	33	17–25
Trailer Tank Bulk Petroleum 7.5K	S73119	30	17–25
Heavy Dump Truck (20-Ton)	X44403	28	20–25

**c. Compatibility of Current Equipment with AC**

Over the past several years, the Army has nominally improved the interoperability and modernization of Army Reserve equipment. However, a large percentage of units continue to retain legacy equipment. Redistributing equipment is not an affordable or cost-effective solution as the Army Reserve explores initiatives to mitigate interoperability differences for deploying units via internal cross-leveling during pre-mobilization preparations. The Army Reserve must be funded and equipped appropriately to remain a ready and operational force.

A lack of adequate resources risks the Army Reserve’s ability to conduct effective, timely, and sustained operations. In the current threat environment, ground forces must fully integrate with other Services to project land power into all domains. Joint Force interoperability is the essential bedrock to enabling MDO, particularly relating to mission command. Moreover, Joint Force interoperability is crucial for fully integrating Army Reserve capabilities, especially within the Joint Logistics Enterprise. It drives a need for concurrent fielding of modern equipment to units that deploy to contested, non-permissive environments early. The Army’s goal is to improve readiness by achieving higher levels of interoperability across all formations while minimizing platform generational gaps.

**d. Maintenance Issues**

A consistent yearly decrease in depot maintenance spending prevents aging fleets from being rebuilt, including large amounts of CDU equipment. This reduction in funding is

highly disruptive to the Army Reserve fleet modernization effort. As a result, readiness rates suffer, such as materiel handling equipment, firetrucks, and tactical wheeled vehicles. Lack of depot maintenance funding creates safety concerns, such as anti-lock brakes and electronic stability control for the High Mobility Multipurpose Wheeled Vehicle (HMMWV). Increasing the emphasis on depot maintenance ensures equipment is available and ready for all missions as near-peer/great power competitors continue to modernize their forces. The Army Reserve must be adequately funded to maintain a ready force to meet today's challenges while implementing a transformational modernization effort that ensures the Army is prepared for future threats. The Army Reserve can and will prioritize maintaining equipment for units that are designated to support the highest priority missions.

The Army's Organic Industrial Base (OIB), which manufactures, repairs, upgrades, and modernizes the Army's equipment, is critical to both strategic and tactical readiness. The OIB supports three primary end states: 1) support current unit readiness across the force, 2) maintain the ability to meet wartime surge requirements, and 3) modernize and retool to sustain the next generation of Army equipment. The Army Reserve's Depot Maintenance Program is key to maintaining the readiness of the Army Reserve fleet. The depot overhaul and rebuild programs sustain Reserve EOH and extend the service life of its fleet as an integral part of the Army Reserve's sustainment activities. The Army Reserve's sustainment activities help to decrease operations tempo spending. The current Army Reserve Depot Maintenance Program funding level is \$43.1 million, which is 65 percent of the Army Reserve's critical requirement of \$66.7 million in FY 2021. Planned budget reductions across FY 2021—FY 2025 will significantly hinder the Depot Maintenance Program.

### **3. Modernization Programs and Shortfalls**

The Army's end strength and force structure analysis drives Army Reserve equipment prioritization and budgeting. The Headquarters, Department of the Army (HQDA) G-8 budget process provides opportunities to implement mitigation measures to fund lower priority equipment systems that lack sufficient base funding. The following portfolio funding narratives highlight opportunities to buttress Army Reserve equipping requirements. Army business rules do not allow for advance documentation of validated equipping requirements prior to resourcing and fielding. The embedded data tables include documented and validated Basis of Issue Plan (BOIP) requirements accordingly.

#### **a. Aviation Portfolio**

The Army Reserve owns 6 percent of the total Army Aviation (AVN) structure with a fleet consisting of both fixed-wing and rotary-wing systems. All Army Reserve aircraft are considered a CDU capability suitable for both contingency operations and HD/DSCA missions. Army Reserve AVN will continue to lose parity with COMPO 1 through 2030 (when Future Vertical Lift enters fleet) without the provision of additional

funding, which will create mission command, modernization, maintenance, and logistics challenges.

Investments in New Procurement and Modernization: In FY 2021 and FY 2022, base budget funding (\$22.2 million) accounted for 100 percent of the total AVN portfolio investments. National Guard and Reserve Equipment Account (NGREA) funding was not used to fill critical modernization gaps. Funding in FY 2023–FY 2026 (\$38 million) reflects investments focused on ground support equipment (see Table 2-15).

*Table 2-15. Aviation Procurement Funding*

Funding Source (\$M)	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026
Base Budget (P-1R)	\$10.8	\$11.4	\$11.7	\$10.6*	\$8.1*	\$7.6*
NGREA Investment	\$0	\$0	—	—	—	—

\* Projected.

The Army Reserve relies on base funding for aircraft procurement and modernization programs. The Army reprioritized 100 percent of Army Reserve modernization funding away from Blackhawk Lima to Victor model conversions through FY 2028. The Army Reserve’s top critical documented shortages within the Aviation Portfolio are listed in Table 2-16.

*Table 2-16. Aviation Top Equipment Shortages*

Capability	Required	On-Hand	Shortage	FY 2025 On-Hand Projected	Unfunded Requirement
HH-60M Black Hawk MEDEVAC*	60	29	31	29	\$567.0M
C-12 Airplane*	32	30	2	30	\$16.0M
C-35 Airplane	16	14	2	14	\$7.8M

\* Critical Dual Use Equipment.

**Aviation Focal Points:**

- The Army Reserve medical evacuation capability remains at 50 percent of the on-hand requirement (pure fleet). Two out of four Air Ambulance Companies, equipped with the HH 60M Blackhawk models, represent the most modernized capability. The remaining two companies retain less-modernized UH-60L and HH-60L models. UH-60V is an affordable means to provide an HH-60M-like digital avionics architecture to remaining analog platforms and provides interoperability and enhanced situational awareness.
- Analog UH-60L models are not scheduled for recapitalization (RECAP) to UH-60V models until after FY 2029. This increases risk to the Army Reserve as new aviation mechanics are not trained to maintain analog UH-60 models.
- There is no projected new procurement of aviation platforms for the Army Reserve through the Future Years Defense Program (FYDP).

- Army Reserve C-12 and C-35 airframes remain at 93.8 percent and 87.5 percent (respectively) of the on-hand requirement, with no projected funding through FY 2029.
- Army Reserve aviation funding is key to supporting DSCA missions, such as rescue operations conducted in partnership with the National Park Service.

**b. Mission Command Portfolio**

The Mission Command Portfolio consists of four capability areas that facilitate joint interoperability: transport, applications, enablers, and integration. The rate of technology advancement is outpacing the ability of the Army to evenly resource modern systems across the total force. The Army Reserve is multiple generations behind the most modern mission command systems, creating communication compatibility gaps with the Total Force. The Army Reserve continues to work with HQDA to sufficiently prioritize units within fielding plans to achieve battlefield commonality. It is difficult to discern the portfolio funding outlook because of fiscal constraints that drive continuous adjustment to requirements and reprogramming actions.

Investments in New Procurement and Modernization: In FY 2021 and FY 2022, base budget funding (\$227.5 million) accounted for a significant amount of Mission Command Portfolio investments (\$230.3 million), with NGREA funds (\$3.3 million) filling critical modernization gaps (see Table 2-17).

*Table 2-17. Mission Command Procurement Funding*

Funding Source (\$M)	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026
Base Budget (P-1R)	\$114	\$113.5	\$57.9	\$123.9	\$61*	\$96*
NGREA Investment	\$3.3	—	—	—	—	—

\* Projected.

The Army Reserve’s top critical documented shortages within the Mission Command Portfolio are listed in Table 2-18.

*Table 2-18. Mission Command Top Equipment Shortages*

Capability	Required	On-Hand	Shortage	FY 2025 On-Hand Projected	Unfunded Requirement
Joint Battle Command–Platform (JBC-P)	15,136	9,928	5,208	15,136	\$0.0M
Command System Tactical TSIv2 Large	150	8	142	30	\$30.3M
Command System Tactical: TSIv2 Small	535	23	512	143	\$14.5M
Terrestrial Line of Sight (TRILOS (V)2)	330	185	145	72	\$2.1M

**Mission Command Focal Points:**

- Resource prioritization for Mission Command systems favors maneuver units. Resourcing is not adequate to field to the Total Force or keep pace with the replacement of obsolete equipment.
- The Army investment strategy accelerated procurement to address legacy system network compatibility challenges and seeks complete modernization by FY 2025. The Army Reserve fielded 4,157 additional JBC-Ps in FY 2022, increasing the Army Reserve on-hand rate from 26 percent to 55 percent.
- Actual fielding quantities (by component, by year) will vary depending on how units are prioritized on the HQDA G-3 Unit Set Fielding List.

**c. Transportation Portfolio**

The portfolio consists of motor transport platforms. The Army Reserve provides over 43 percent of motor transport units, comprised of Light, Medium, and Heavy Tactical Wheeled Vehicles (TWV) for the Army. The majority of the Army’s Echelons Above Brigade (EAB) transportation capability resides within the Army Reserve.

**Investments in New Procurement and Modernization:** The Army Reserve has invested over \$1 billion in NGREA funds to modernize its aging fleets by procuring over 800 Light, Medium, and Heavy TWVs and Trailers since 2012.

In FY 2021 and FY 2022, base budget funding (\$332.2 million) accounted for 42 percent of total TWV portfolio investments (\$789.5 million), with NGREA funding (\$76.3 million) filling critical modernization gaps. Increased funding projected in FY 2024 for Joint Light Tactical Vehicles (JLTV) will increase critical modernization gaps in the Light TWV fleet. Decreased funding in FY 2025–FY 2026 (\$119.6 million) reflects reduced investments in trailers, Medium Tactical Vehicle modernization, and JLTV production. The increased costs of the more modernized A2 model Medium Tactical Vehicles will substantially limit NGREA buying power (see Table 2-19).

*Table 2-19. Tactical Wheeled Vehicles Procurement Funding*

Funding Source (\$M)	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026
Base Budget (P-1R)	\$196.8	\$135.4	\$16.3*	\$320.9*	\$59.4*	\$60.2*
NGREA Investment	\$61.5	\$14.8	—	—	—	—

\* Projected.

The current fiscal environment continues to create funding gaps for fleet modernization in the near to mid-term but provides a funding solution to upgrade 50 percent of legacy fleets to meet armor-capable strategy goals. The Army Reserve has utilized NGREA funding to procure over 800 vehicles and trailers, primarily in heavy tactical vehicle and trailer categories, but the Army Reserve lacks sufficient medium tactical vehicles because of reduced funding and the delayed production of the FMTV A2 variants. Fielding of the JLTV has helped to increase the armor capable LTV fleet, but there are

no distributions planned for the Army Reserve beyond FY 2024, which will keep our LTV fleet less than 40 percent armor capable. Delayed investments in new procurement and recapitalization programs continue to increase sustainment costs. It also increases the depot rebuild programs required to maintain the readiness levels of the legacy TWV fleet, ultimately risking interoperability with the Total Force. Top unfunded shortfalls are listed in Table 2-20.

Table 2-20. Tactical Wheeled Vehicles Top Equipment Shortages

Capability (\$M)	Required	On-Hand	Shortage	FY 2025 On-Hand Projected	Unfunded Requirement
Joint Light Tactical Vehicle (JLTV)	15,585	793	14,792	1,923	\$4,900M
M915A5*	2,488	971	1,517	971	\$247M
PLSA1 (M1075A1)*	350	110	240	160	\$119M

\* Critical Dual Use Equipment

**Transportation Focal Points:**

- The Common Tactical Tractor, which is the replacement tractor for the armor-capable M915A5 Line-Haul Tractor, is now not expected until FY 2029, with sufficient quantities not available until the early 2030s. Maintaining the current fleet of vehicles, of which 61 percent are 20–25 years old, results in increased maintenance costs, potential shortage of repair parts, and modernization challenges. At present, 39 percent of the current Army Reserve line haul fleet (971/2488) is capable of global deployment to a non-permissive threat environment.
- The current Army Reserve LTV fleet will remain HMMWV-centric and approximately 36 percent armor-capable through FY 2026, a delay of at least 4 years. The Army Reserve will have 12 percent of the current JLTV on-hand requirement by the close of FY 2026 because of continued production and fielding delays.
- The M1075A1 PLSA1 (without Enhanced Container Handling Unit) investment strategy is limited to modernizing approximately 46 percent (160 of 350) of the total Army Reserve legacy fleet by FY 2025. This investment was only possible using NGREA funds because the Army Reserve has not received base budget funding for PLS since 2016.

**d. Mobility and Engineering Portfolio**

The Army Reserve provides 36 percent of the Army’s EAB mobility structure. The portfolio consists of construction, tactical bridging, engineer support, command and control, mines and munitions, counter explosive hazard, and armored vehicle systems.

**Investments in New Procurement and Modernization:** In FY 2021 and FY 2022, the Army’s base budget procurement funding (\$135 million) accounted for 57 percent of the total Mobility portfolio investments (\$237 million), with NGREA funding (\$76.4 million) for critical modernization gaps. Funding in FY 2023–FY 2026 (\$102.3 million) reflects

investments in Army Reserve combat mobility systems, particularly the Joint Assault Bridge (see Table 2-21).

*Table 2-21. Mobility Procurement Funding*

Funding Source (\$M)	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026
Base Budget (P-1R)	\$86.3	\$48.3	\$22.6	\$19.3*	\$12.7*	\$47.7*
NGREA Investment	\$36.4	\$40	—	—	—	—

\* Projected

The Army’s near to mid-term base budget strategy remains focused on resetting and modernizing engineer capabilities resident in Brigade Combat Teams and assumes greater risk in EAB enabler equipment acquisition. Continued extension of procurement timelines for mission essential mobility equipment directly impacts the Army Reserve readiness posture by placing a greater burden on maintaining less optimal legacy platforms—well beyond their EUL—and creating capability gaps with the Total Force. Top mobility unfunded equipment modernization shortages are listed in Table 2-22.

*Table 2-22. Mobility and Engineering Top Equipment Shortages and Modernization Challenges*

Capability	Required	On-Hand	Shortage	FY 2025 On-Hand Projected	Unfunded Requirement
Joint Assault Bridge (JAB)*	36	0	36	0	\$230.4M
High Mobility Engineer Excavator*	281	53**	228	61**	\$94.6M
Heavy Dump Truck (20 Ton)*	357	105**	252	225**	\$42.1M
Semitrailer Low Bed (40 Ton)*	951	38**	913	52**	\$46.7M
Light Engineer Utility Trailer (12T)	156	0	156	57**	\$3.1M

\* Critical Dual Use Equipment

\*\* Most Modern Variant

**Mobility and Engineering Focal Points:**

- The Joint Assault Bridge (JAB) replaces the legacy 60-year-old Armored Vehicle Assault Bridge platform. Funding priorities led to reductions in the total number and an extended procurement timeline in Army Reserve acquisition. Initial procurement planned for FY 2023 was delayed by 3 years to FY 2026 with total system allocations being reduced from a full complement of 36 systems to 25 systems (69 percent of AAO) over the FYDP.
- The High Mobility Engineering Excavator (HMEE) Type I replaces the Small Emplacement Excavator (SEE), providing increased capability for light earthmoving, loading, and excavation. The latest HMEE variant features Electronic Over Hydraulic technology for robotic interoperability. Combat Engineer Company (CEC) Force Design Update (FDU) increased the Army Reserve requirement by 68 systems. FY 2021 NGREA funds purchased 20 systems to bring the on-hand quantity to

75 percent (including legacy systems). The projected FY 2026 fleet contains 79 percent that are legacy and 21 percent that are modernized. The remaining unfunded requirement represents a fully modernized pure fleet. Current base budgeting does not address shortfalls until FY 2026 with 35 additional systems in FY 2027 and FY 2028.

- The Heavy Dump Truck (20 Ton) investment strategy is limited to modernizing approximately 15 percent (55 of 357) of the total Army Reserve legacy fleet to an armor-capable variant by FY 2023. The Army Reserve obligated NGREA funds in FY 2019 and FY 2021 to modernize an additional 48 percent (170 of 357) to an armor-capable variant by the end of FY 2023.
- Semitrailer Low Bed (40 Ton) M870A0 and A1 variants are beyond EUL, and the overall average age of the fleet is 35 years. Eighty-nine percent (617 of 693) of Army Reserve Fleet are A0 and A1 models that require an upgrade to the M870A4 variant.
- The Light Engineer Utility Trailer (LEUT) provides Engineer Units transport capability for designated prime movers. The current base budget profile funds the program to 37 percent (57 of 156) with zero funding in the out years.

**e. Field Logistics Portfolio**

This portfolio includes maintenance, medical, bulk supply, and liquid logistics capabilities, most of which are CDU items. Nearly 65 percent of the Army’s sustainment capabilities reside in the Army Reserve. Unique capabilities include:

- 92 percent of the Total Army’s bulk petroleum support,
- 88 percent of general supply,
- 50 percent of water storage/distribution, and
- 59 percent of medical capabilities.

Investments in New Procurement and Modernization: FY 2021 and FY 2022 Army base budget procurement funding (\$110 million) accounted for 73 percent of total Field Logistics portfolio investments (\$150 million), with NGREA funding critical modernization gaps (40 million). Funding in FY 2023–FY 2026 (\$272.2 million) reflects investment focus on modernizing medical systems, water logistics, storage, and distribution and analysis systems (BISON, HIPPO and 3k TWPS), and maintenance tool/diagnostic sets. The Water Logistics, Storage, Distribution and Analysis program is not funded to sufficiently address gaps in key Army Reserve water logistics capabilities, which provides 80 percent or more of EAB support (see Table 2-23).

*Table 2-23. Logistics Procurement Funding*

Funding Source (\$M)	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026
Base Budget (P-1R)	\$44.7	\$65.3	\$43.5	\$56.1*	\$74*	\$98.6*
NGREA Investment	\$40	—	—	—	—	—

\* Projected



Field Logistics portfolio funding has been slightly unstable in recent years, creating program uncertainty. Prioritization decisions often lead to shortfalls in the funding of field service, maintenance, and medical programs. This impacts operational readiness and interoperability. The Army Reserve has a significant number of critical shortages and modernization gaps within this portfolio even with the slight increase to funding in targeted strategic areas, including water and petroleum delivery/storage capabilities, field service, maintenance, and medical. Shortages will persist until the planned, current, and out-year funding is executed.

Current supply chain constraints have delayed production and increased costs by 10 percent on almost all programs. Logistic programs initiated a more aggressive investment strategy to modernize water purification, storage, and distribution platforms at the EAB level to support early entry and theater-opening storage capacity and bulk distribution required to support joint forces in a non-permissive environment. The procurement strategy continues toward a “pull” distribution which slows tactical movement and adversely affects combat lethality created by the campaign plan. The lack of investment in field service, maintenance, and medical equipment impacts the Army Reserve’s capability to support HD and DSCA missions. Top equipment modernization shortages are listed in Table 2-24.

*Table 2-24. Field Logistics Critical Equipment Shortages*

Capability	Required	On-Hand	Shortage	FY 2025 On-Hand Projected	Unfunded Requirement
Water Tank – 2000 Gallon (HIPPO)*	484	51	433	286	\$25.8M
3000 GPH Tactical Water Purification Systems	78	0	78	0	\$57.0M
Water Bison	1718	0	1718	36	\$74.0M
Rough Terrain Forklift – 5K*	962**	128**	834	175**	\$59.0M
Bulk Fuel Distribution Systems (BFDS)	1680	0	1680	475	\$112.0M
Mobile Tactical Retail Refueling System (MTRRS)	1183	0	1183	190	\$55.0M
Metal Working and Machining Shop Set Type I & Type II	55	0	55	12	\$18.3M

\*Critical Dual Use  
 \*\* Most Modern

**Field Logistics Focal Points:**

- On August 3, 2021, a new contract was awarded to Isometric to produce the HIPPO. There has been an increase in planned procurement from FY 2022 to FY 2026 for the Army Reserve. Supply chain issues have delayed the initial fielding that was expected in FY 2023.

- The Army Reserve provides 50 percent of Water Support to the total Army. The 3K Tactical Water Purification System (TWPS) is the expected replacement for the obsolete 3,000 GPH Reverse Osmosis Water Purification Unit (ROWPU) system. Funding to initiate Research, Development, Test, and Evaluation does not begin until FY 2023. Initial procurement is expected to begin in FY 2025. Force Development Logistics recognized the importance of modernizing the TWPS for the Army Reserve and increased the quantity of procurement in FY 2026 and beyond.
- The Water Bison is the modernized system for the legacy 400-gallon bulk water buffalo (M149) trailer, which is beyond its useful economic life. The water bison will increase the unit water capacity from 400 gallons to 500 gallons. The Army Reserve currently has 69 percent of the 400-gallon water systems on-hand, which is a shortage of 462 systems. The average operational rate of the legacy water systems is 58 percent, creating a significant impact on mission readiness. The Army will procure only 10 percent of the Water Bison requirement by FY 2026 because the program is significantly underfunded.
- The Army increased its AAO for the Bulk Fuel Distribution System (BFDS), and it is currently underfunded. The Army Reserve is responsible for 95 percent of the Theater Opening fuel capability requirement. The modernization strategy continues to replace the legacy 7,500-gallon and 5,000-gallon bulk fuel trailers beyond their EUL. Due to current inflation, the price increase of crucial raw materials may increase unit pricing and lower the number of BFDS that the Army Reserve can purchase at current funding levels.
- The Metal Working and Machining Shop Set (MWMSS) Type I and Type II provides additive and subtractive manufacturing capabilities that are configured in a highly mobile shelter to execute battle damage assessment and repair missions that quickly restore and preserve combat power. Type I is intended to replace four legacy systems. COMPO1 has fielded these systems since 2014. No systems have been fielded to the Army Reserve since the initial fielding took place 8 years ago. The Army Reserve will begin procuring MWMSS with NGREA to Support Maintenance Companies (SMC) and Engineer Battalion Forward Support Companies (FSC) with an expected fielding date in FY 2023.

### **Medical Focal Points:**

- Fulfilling air ambulance Medical Equipment Set (MES) shortages is a significant priority for the Army Reserve. The Army Reserve air ambulance units currently have three MES system versions. Two of those systems only provide a one-patient transport capability. The Army Reserve is investing internal funds to support modernization of the equipment to the most modern version, increasing Air Casualty Evacuation capacity to a two-patient transport.
- There are still critical medical device shortages within the current MES kits in the U.S. Army Medical Materiel Development Activity (USAMMDA).
- Modern medical technology is consistently evolving and improving, which requires frequent replacement of obsolete equipment. The process of updating medical devices remains a fiscal challenge that impacts our ability to fill shortages, limiting

force modernization of the Army Reserve Health Systems. The Army Reserve identified and funded significant funding shortfalls for medical essential Test Measurement and Diagnostic Equipment (TMDE) within medical and non-medical units.

**f. Force Protection and Soldier Portfolios**

The Force Protection portfolio comprises Chemical, Biological, Radiological, Nuclear, Explosives (CBRNE) Defense, Civil Affairs, Military Information Support Operations, and Military Police. The Soldier Portfolio comprises individual and crew items required for combat.

Investments in New Procurement and Modernization: FY 2021 and FY 2022 Army base budget procurement funding (\$25.6 million) accounts for 100 percent of the total Force Protection and Soldier Portfolio investments, as NGREA is not planned to fund any critical modernization gaps. Increased funding in FY 2023–FY 2026 (\$243.5 million) reflects investments focused on modernizing individual Soldier weapons and Nuclear, Biological, and Chemical (NBC) protection equipment as depicted in Table 2-25.

*Table 2-25. Force Protection and Soldier Procurement Funding*

Funding Source (\$M)	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026
Force Protection Base Budget (P-1R)	\$0.7	\$1.4	\$47.7	\$5.5*	\$0.76*	\$0.93*
Soldier Base Budget (P1-R)	\$13	\$23.4	\$2.9	\$4.8*	\$5.4*	\$15.5*
NGREA Investment	—	—	—	—	—	—

\* Projected.

Limited funding for force protection modernization programs increases the risk in biological detection and protection capabilities that are required to provide responsive support for HD and DSCA missions and limits the ability to bolster our force protection posture.

**B. Future Years Program (FY 2024–FY 2026)**

**1. FY 2026 Equipment Requirements**

Sustaining the readiness of Army Reserve capabilities requires consistent and predictable funding. The Army Reserve must replace or recapitalize aging critical equipment to support MDO. We expect inventories to remain a mix of fully modernized equipment and acceptable legacy substitute items. However, the Army Reserve must be adequately and consistently funded to be equipped with platforms and systems capable of global deployment and seamless integration to support the full range of MDO. Tough resource decisions force the Army to support the development of higher priority programs by accepting near-term risk in enabler systems. All formations will not modernize at the same rate because of the fiscal realities that drive resource prioritization. Since FY 2013, the Army Reserve portion of the base budget has declined to less than three percent annually and it is projected to be less than two percent

annually through FY 2025. The budgetary outlook reflects the shift to a resource prioritization strategy that will slow investments for enabler systems, while increasing the reliance on redistribution of assets and sustainment funding for legacy fleets.

## **2. Expected Withdrawal from RC Inventory (Retired, Decommissioned, Transferred)**

The Army Reserve approved the transfer of five M1084A1P2s (Medium Tactical Vehicle) to support Presidential Drawdown #15 (assistance to Ukraine). The Army Reserve anticipates payback in Q3FY 2025 with five M1084A2 (Medium Tactical Vehicle w/ MHE).

## **C. Summary**

To prepare for future challenges, the Army Reserve continues to optimize processes and prioritize efforts that deliver modern enabler capabilities that support MDO; invest in responsive capabilities to enhance the equipping posture for LSCO, HD, and DSCA; and advocate for the development of future enabler capabilities to increase interoperability and holistically identify and forecast resource gaps. The Army Reserve supports the Army Campaign Plan through a concept of operations that leads us toward the Chief of Army Reserve's vision of the Army Reserve of 2035. The Army Reserve of 2035 provides trained and equipped units and personnel at the scale and speed required to support the Total Force in the joint, multi-domain operational environment. Moving towards our vision, the Army Reserve will continue to build the most capable, combat-ready reserve in the history of the nation to provide mission-critical forces and capabilities that the Army needs to fight, survive, and win on the battlefield from day one. The United States faces a new era of great power competition, new concepts of warfare that challenge us across every domain—land, sea, air, space, and cyber space—and thus new threats to U.S. freedom and security. Purposefully designed to enable forces, the Army Reserve remains committed to achieving readiness objectives that allow seamless integration with the Total Force.

**Consolidated Major Item Inventory and Requirements**

*NOTE: This table provides a comprehensive list of selected major equipment items. It provides the projected inventory quantity on-hand (QTY O/H) at the beginning/end of the selected fiscal year (FY). It also provides the quantity required (QTY REQ) to meet the full wartime requirements of the Reserve Component. In accordance with Title 10, the QTY REQ number provides the recommendation as to the quantity and type of equipment that should be in the inventory of each Reserve Component. Unit cost estimates are provided by the Military Departments.*

Nomenclature	Equip No.	Unit Cost	Begin FY 2024 QTY O/H	Begin FY 2025 QTY O/H	Begin FY 2026 QTY O/H	End FY 2026 QTY O/H	End FY 2026 QTY REQ
<b>Air Defense</b>							
Center: Communications Operations	C18033	\$3,648,500	5	5	5	5	5
Radio Set: AN/USQ-140(V)2(C)	R42399	\$300,000	3	3	3	3	5
<b>Aircraft</b>							
Airplane Cargo Transport: C-12F	A30062	\$3,068,422	30	30	30	30	32
CH-47F Improved Cargo Helicopter	C15172	\$30,000,000	36	36	36	36	36
Helicopter Utility: UH-60L	H32361	\$7,908,000	114	114	114	114	114
MEDEVAC Helicopter: HH-60M	M33458	\$18,300,000	29	29	29	29	30
Small Unmanned Aircraft System: Raven B	S83835	\$180,000	87	87	87	87	87
Utility Cargo Aircraft: UC-35A	U05004	\$3,922,313	14	14	14	14	16
<b>Aviation</b>							
Battle Damage Assessment and Repair Sys: BDAR	B85617	\$110,000	17	17	17	17	17
Command System: Tactical AN/TSQ-221	C61597	\$3,000,000	2	2	2	2	2
Communication System: Tactical Terminal Control System (TTCS)	C59125	\$998,000	4	4	4	4	4
Power Unit Auxiliary: Aviation Multi-Output Gted (AGPU)	P44627	\$1,000,000	24	24	24	24	24
Radar Set: AN/TPN-31	R17126	\$3,701,502	2	2	2	2	2
<b>Battle Command Command and Control (C2)</b>							
Computer Set: Digital (JBC-P) AN/UYK-128B(V)3	C05036	\$21,706	6,386	7,089	7,089	7,513	8,250
Computer Set: Digital (JBC-P) AN/GYK-62G	C05037	\$16,000	380	432	432	426	447
Computer Set: Digital (JBC-P Log): AN/UYQ-90B(V)5	C05054	\$19,997	459	471	471	489	575
Computer Set: Digital (JBC-P Log): AN/UYQ-90B(V)4	C05055	\$8,342	2,703	2,173	2,173	2,173	3,342
Command System Tactical: (TSIv2 Large)	C05119	\$252,290	25	30	30	33	40
Command System Tactical: (TSIv2 Small)	C05120	\$37,070	18	91	91	115	115

**Consolidated Major Item Inventory and Requirements**

Nomenclature	Equip No.	Unit Cost	Begin FY 2024 QTY O/H	Begin FY 2025 QTY O/H	Begin FY 2026 QTY O/H	End FY 2026 QTY O/H	End FY 2026 QTY REQ
Command System Tactical	C40996	\$870,000	14	14	14	14	14
<b>Battlespace Awareness</b>							
Processing Center, Intelligence Version 1: AN/FSW-243(V)1	A53063	\$1,900,000	5	5	5	5	5
Cross Domain Server Set: AN/GYK-78	C60625	\$48,213	4	4	4	4	4
Computer: System Digital AN/PYQ-8	C77823	\$5,000	280	280	280	280	280
Workstation, Geospatial Intelligence: AN/TYQ-71(V)	D11498	\$250,000	131	25	25	25	25
<b>Battle Command Transport</b>							
Antenna: BB-1404/TRC	A81826	\$1,066,695	18	18	18	12	12
Central Office: Telephone Automatic	C20617	\$775,000	6	6	6	4	4
Joint Node Network (JNN) Central Office Telephone Auto	J05001	\$925,000	26	26	26	22	22
Radio Terminal: Line of Sight Multi-Channel AN/TRC-238(v2)	R05031	\$112,798	3	77	77	101	101
Radio Terminal Set: AN/TRC-170 (V)3	R93035	\$2,233,375	19	18	17	17	26
Radio Terminal: Line of Sight Multi-channel AN/TRC-190E(V)1	R90451	\$2,472,271	194	120	120	120	120
Radio Terminal: Line of Sight Multi-channel AN/TRC-190F(V)3	R90587	\$2,472,271	46	46	46	36	36
Satellite Communication System: AN/TSC-156	S23268	\$4,000,000	30	30	30	30	30
Transportable Tactical Command Communications Lite V1	T05071	\$1,160,673	40	40	40	40	40
Transportable Tactical Command Communications Heavy V2	T05073	\$503,294	16	16	16	22	22
Teleconference System: AN/TYQ-122	T43146	\$5,282	37	39	37	37	37
Terminal: Satellite Communication AN/TSC-155	T81733	\$825,000	10	10	10	11	14
<b>Combat Mobility</b>							
Boat: Bridge Erection	B05006	\$826,128	126	126	126	126	126
Bridge Heavy Dry: Supt (HDSB) 40M MLC96	B26007	\$1,869,741	36	36	36	36	36
Bridge Armored Veh Launched Scissors: 63-ft (AVLB) MLC 70	B31098	\$7,645,450	36	36	36	36	36
Carrier Bridge Launching: Joint Assault XM1110	C05137	\$6,400,000	0	0	0	0	36
High Mobility Engineer Excavator (HMEE) Type IV	H05017	\$429,944	61	61	61	61	71

**Consolidated Major Item Inventory and Requirements**

Nomenclature	Equip No.	Unit Cost	Begin FY 2024 QTY O/H	Begin FY 2025 QTY O/H	Begin FY 2026 QTY O/H	End FY 2026 QTY O/H	End FY 2026 QTY REQ
High Mobility Engineer Excavator (HMEE) Type I	H53576	\$458,000	178	178	178	178	209
Interior Bay Bridge Floating	K97376	\$435,703	270	270	270	270	270
Loader Scoop Type: Heavy Type II Loader	L15041	\$250,000	78	78	78	78	78
Launch M60 Series Tank Chass Trnsptg: 40 & 60 ft Bridge Ty CL 60	L43664	\$527,126	36	36	36	36	36
Launcher Heavy Dry Support Bridge (HDSB)	L67660	\$2,480,000	36	36	36	36	36
Loader Scoop Type: DSL 2-1/2 cu-yd Hinge Frame w/Multipurpose Bucket	L76556	\$141,500	22	22	22	22	22
Loader Scoop Type: 2.5 Cubic Yard	L76897	\$99,515	34	34	34	34	34
Loader Skid Steer: Type III	L77147	\$53,548	175	175	175	175	175
Loader Skid Steer: Type III	L77215	\$349	329	329	329	329	329
Mine Protected Clearance Vehicle	M05004	\$1,451,707	78	78	78	78	78
Medium Flail	M05031	\$664,971	24	24	24	24	24
MMPV Type II	M05044	\$350,000	243	243	243	243	243
Ramp Bay Bridge Floating	R10527	\$525,068	108	108	108	108	108
Transporter Common Bridge M1977A4	T05067	\$550,000	336	336	336	336	336
Tractor Wheeled: Industrial	T34505	\$328,201	167	167	165	165	165
Transporter Common Bridge M1977A2	T91308	\$550,000	168	168	168	168	168
Vehicle Mounted Mine Detection (VMMD) System	V05001	\$804,387	156	156	156	156	156
<b>Field Logistics</b>							
Assault Kitchen	A94943	\$65,000	52	52	52	52	52
Fuel System Supply Point: FSSP Type 3 120K	F04898	\$33,000	82	82	82	82	82
Force Provider Module: Houses 550 Soldiers Transportable	F28973	\$4,650,000	1	1	1	1	0
Forward: Repair System (FRS)	F64544	\$285,591	200	201	201	201	201
Light Capability Rough Terrain Forklift (LCRTF): 5K	L05010	\$74,750	478	478	478	478	616
Light Capability Rough Terrain Forklift (LCRTF): 5K II	L05024	\$75,000	139	175	210	210	127
Kitchen Field Trailer-mtd: mtd on M103A3 Trailer	L28351	\$351,688	521	521	521	521	521
Laundry Advanced System (LADS): Trailer-mtd	L70538	\$1,022,444	108	108	108	108	108

**Consolidated Major Item Inventory and Requirements**

Nomenclature	Equip No.	Unit Cost	Begin FY 2024 QTY O/H	Begin FY 2025 QTY O/H	Begin FY 2026 QTY O/H	End FY 2026 QTY O/H	End FY 2026 QTY REQ
Metal Working and Machining Shop Set (MWMSS) Type I	M05053	\$425,000	6	7	8	8	8
Metal Working and Machining Shop Set (MWMSS) Type II	M05054	\$425,000	5	5	5	5	5
Multi-Temperature Refrigerate Container System (MTRCS)	M30688	\$160,351	431	432	470	470	1,364
Petroleum Quality Analysis System: Enhanced	P25743	\$1,770,000	21	21	21	21	21
Rough Terrain Container Handler: Kalmar RT240	R16611	\$868,103	381	381	381	381	381
Shower: Portable 12 Head	S62898	\$1,200,000	132	132	132	132	132
Trailer Tank Water (Camel): 800 gal 5-ton W/E	T05047	\$106,532	1	1	1	1	1
Tactical Water Purification System (TWPS) 1500 gph	T14017	\$455,871	40	40	40	40	40
Modular Fuel System-Tank Rack Module with Retail Capability	T20131	\$78,038	42	42	42	42	42
Load Handling System (LHS) 2000 Gal Water Tank (HIPPO)	T32629	\$130,293	203	286	366	366	462
Water Purification: Reverse Osmosis 3000-gph Trailer-mtd	W47225	\$455,871	78	78	78	78	78
Trailer Tank Water: 400-gal 1.5-ton 2-wheel	W98825	\$85,825	1,041	1,029	1,029	1,029	1,732
Mobile Tactical Retail Refueling System (MTRRS)	Z05002	\$55,000	163	190	232	232	232
Bulk Fuel Distribution System (BFDS)	Z05917	\$93,000	320	475	724	724	1,680
Trailer Tank: Water 500-Gallon, Water Bison	Z05968	\$44,000	12	12	36	82	29
<b>Force Protection</b>							
Alarm Biological Agent Automatic: (BIDS) M31A2	A48680	\$1,408,429	266	210	210	154	154
CBRN Dismounted Reconnaissance: (SKO)	C05051	\$1,410,000	36	36	36	36	36
Chemical Biological Protective Shelter (CBPS Electric)	C05093	\$657,117	71	71	71	71	167
JBAIDS Augmentation Set:	J05007	\$500,000	3	3	3	3	40
Joint Personal Dosimeter - Individual (JPD-I)	J05045	\$408	1,824	2,235	2,298	2,298	2,298
Mask Chemical-Biological: M45	M12736	\$466	1,395	1,395	1,395	1,395	1,395
Mask Chem-Bio Joint Service General Purpose: Field M50	M12986	\$400	134,532	133,515	132,861	132,861	132,861



**Consolidated Major Item Inventory and Requirements**

Nomenclature	Equip No.	Unit Cost	Begin FY 2024 QTY O/H	Begin FY 2025 QTY O/H	Begin FY 2026 QTY O/H	End FY 2026 QTY O/H	End FY 2026 QTY REQ
Mask Chem-Bio Joint Service General Purpose: Combat Vehicle Crewman M51	M13236	\$400	1,869	1,869	1,869	1,885	1,885
Nuclear Biological Chemical Recon Vehicle (NBCRV)	N96543	\$8,024,127	56	56	56	56	64
<b>General Engineering</b>							
All Terrain Crane Type II: (Heavy)	A05074	\$1,628,875	9	9	9	9	9
Crane Wheel-mtd: Hydraulic Light 7.5-ton w/Cab	C36151	\$165,922	25	25	25	25	25
Crane: Wheel Mounted Hydraulic 25-ton All Terrain AT422T	C36586	\$382,000	107	107	107	107	107
Engineer Mission Module-Water Distributor (EMM-WD): Type II	E05007	\$668,953	149	149	149	149	172
Excavator: Hydraulic Type I Multipurpose Crawler Mount	E27792	\$348,371	138	138	138	138	138
Firefighter Individual Requirements Equipment Set (FIRES)	F05005	\$27,769	184	184	184	184	338
Hydraulic Electric Pneumatic Petroleum Operated Equipment (HEPPOE)	H05004	\$230,000	244	244	244	244	244
Motorized Grader	M05001	\$253,000	169	169	169	169	169
M1158 Truck: HEMTT Based Water Tender	M31997	\$668,953	42	42	42	42	42
Paving Machine: Bituminous Material	P05023	\$152,451	6	6	6	6	6
Surveying Instrument: Electric Distance Short Range Infrared	S03726	\$55,000	99	99	99	99	232
Scraper Earthmoving: 14-18 Cu Yd	S05029	\$796,100	187	187	187	187	198
Self-Propelled Concrete Saw	S05079	\$100,000	7	7	7	7	25
Scraper Elevating: Self Propelled 9-11 Cu Yd Sectionalized	S30039	\$441,923	31	31	31	31	36
Tractor Full Tracked Low Speed T9	T05015	\$259,683	298	298	298	298	305
Tractor Full Tracked Low Speed: T9 Type II w/Ripper	T05016	\$325,000	144	144	144	144	144
Tractor FT LS: T-5 Type II W/Ripper	T05026	\$311,000	12	12	12	12	12
Tractor Full Tracked Low Speed: T5	T05029	\$311,000	12	12	12	12	12
Tactical Water Distribution Equip Set: (TWDS-RDF)	T09094	\$350,000	4	4	4	4	6
Tractor FT HS: Deployable LT Engineer (Deuce)	T76541	\$398,000	12	12	12	12	12
Truck: Tactical Firefighting 8X8 Hvy Exp Mov	T82180	\$878,461	70	70	70	70	70

**Consolidated Major Item Inventory and Requirements**

Nomenclature	Equip No.	Unit Cost	Begin FY 2024 QTY O/H	Begin FY 2025 QTY O/H	Begin FY 2026 QTY O/H	End FY 2026 QTY O/H	End FY 2026 QTY REQ
Surveying Set General Purpose: Planimet Const and TOPO	U70179	\$9,795	62	62	62	62	172
<b>Maneuver</b>							
Carrier Armored Command Post: Full Tracked	C11158	\$374,000	25	25	25	25	25
Carrier Personnel Full Tracked: Armored (RISE)	C18234	\$511,343	110	110	110	110	110
Carrier Command Post: Light Tracked	D11538	\$345,787	6	6	6	6	6
Recovery Vehicle Full Tracked: Medium	R50681	\$1,211	27	27	27	27	27
<b>Medical</b>							
Computerized Tomography Scanner Field	C79284	\$1,284,215	16	16	16	17	24
Dental Materiel Set Oral: Maxillofacial Surgery	D65925	\$1,253,538	5	5	5	5	12
Medical Materiel Set Central Materiel Service	M08417	\$1,953,635	24	24	24	24	36
Medical Materiel Set Maxo-Facial head Neck Surg Augmentation	M09098	\$1,247,818	6	6	6	7	7
Medical Materiel Set Post-Op/ICU Ward	M09576	\$1,445,922	40	40	40	40	64
Medical Materiel Set Radiology Computerized Tomography	M09826	\$908,000	9	9	9	10	24
Medical Materiel Set Medical Supply: 164 Bed CSH Co	M14585	\$986,686	1	1	1	1	24
MES Forward Surgical Team:	M45375	\$1,951,907	25	25	25	25	25
Medical Materiel Set Neurosurgery Augmentation: DEPMEDS	M48305	\$211,674	6	6	6	7	7
Medical Materiel Set Triage/Emergency/Pre-Op	M73050	\$975,265	24	24	24	24	24
Medical Materiel Set Pharmacy: 84 Bed CSH Co	M73254	\$287,517	5	5	5	5	16
<b>Soldier Systems</b>							
Armament Subsystem: Remotely Operated	A90594	\$236,751	681	681	681	681	681
Mini Eyesafe Laser IR Observation Set (MELIOS): AN/PVS-7	M74849	\$22,015	67	67	67	67	67
<b>Soldier Weapons</b>							
Carbine 5.56mm: M4A1	C06935	\$1,772	119,206	118,886	118,886	118,285	118,285
Command Launch Unit: (Javelin) 13305405-119	C60750	\$243,732	103	103	103	103	103
Launcher Grenade: M320A1	L69080	\$4,876	7,265	7,201	7,201	7,137	7,137

**Consolidated Major Item Inventory and Requirements**

Nomenclature	Equip No.	Unit Cost	Begin FY 2024 QTY O/H	Begin FY 2025 QTY O/H	Begin FY 2026 QTY O/H	End FY 2026 QTY O/H	End FY 2026 QTY REQ
Machine Gun Caliber .50: HB Flexible (Ground & Vehicle) W/E	L91975	\$11,005	88	84	84	84	84
Machine Gun 5.56mm: M249	M09009	\$4,298	11,348	11,304	11,304	11,224	11,224
Machine Gun: Light 5.56mm M249	M39263	\$4,298	2,594	2,594	2,594	2,594	3,129
Machine Gun: Caliber .50	M39331	\$12,786	5,524	5,513	5,513	5,495	5,495
Machine Gun Grenade 40mm: MK19 Mod III	M92362	\$17,085	1,658	1,658	1,658	1,655	1,655
Machine Gun: 7.62mm M240L	M92454	\$14,404	222	222	222	222	222
Machine Gun 7.62mm: M240H	M92591	\$11,597	276	276	276	276	276
Machine Gun: 7.62mm M240B	M92841	\$14,404	7,078	7,054	7,054	7,046	7,046
Pistol Modular XM-18 Compact	P05042	\$269	428	756	756	756	756
Pistol Modular XM-17	P05043	\$263	16,122	19,755	19,755	19,800	19,800
Pistol 9mm: M11	P47365	\$426	414	84	84	84	84
Pistol 9mm Automatic: M9	P98152	\$426	8,311	4,690	4,690	4,688	4,688
<b>Strike</b>							
Computer System Digital: AN/GYK-56 (AFATDS)	C05018	\$6,245	0	0	0	0	2
Computer System Digital: AN/GYK-63(V)2 (AFATDS)	C05032	\$20,088	26	26	26	26	26
<b>Support Systems</b>							
Command System Tactical (TSI-V2 Large)	C05119	\$252,290	1	25	25	40	40
Common Robotic System – Individual (CRS-I)	C05125	\$60,000	95	95	95	95	114
Man Transportable Robotic System (MTRS) Increment II	M05068	\$137,000	32	32	32	36	172
<b>Trailers</b>							
Palletized Load System: Trailer-CTE	P05025	\$109,794	318	322	322	322	322
Semitrailer Tank: 5000-gal Bulk Haul Self-Load/Unload	S10059	\$85,000	1,048	1,048	1,048	1,048	1,080
Semitrailer Flatbed: Breakbulk/Container Transporter 34-ton	S70159	\$105,069	1,441	1,456	1,456	1,490	1,720
Semitrailer Low Bed: 25-ton 4-wheel W/E	S70517	\$179,778	96	98	98	96	96
Semitrailer Low Bed: 40-ton 6-wheel W/E	S70594	\$51,900	948	948	948	948	948
Semitrailer Low Bed: 70-ton HET	S70859	\$610,664	484	484	484	484	484
Semitrailer Tank: Petroleum 7500-gal Bulk Haul	S73119	\$198,020	356	356	356	356	360

**Consolidated Major Item Inventory and Requirements**

Nomenclature	Equip No.	Unit Cost	Begin FY 2024 QTY O/H	Begin FY 2025 QTY O/H	Begin FY 2026 QTY O/H	End FY 2026 QTY O/H	End FY 2026 QTY REQ
Semitrailer Tank: 5K gal Fuel Dispensing Automotive W/E	S73372	\$97,000	433	433	433	433	433
Semitrailer Van: Supply 12-ton 4-wheel W/E	S75175	\$84,466	58	58	58	58	58
Trailer, Cargo: 12T Light Engineer Utility Trailer (LEUT)	T05106	\$31,100	57	57	57	57	156
Trailer: Flat Bed	T64618	\$55,875	20	20	20	20	58
Trailer: Palletized Loading 8X20	T93761	\$88,639	2,893	2,835	2,835	2,829	2,829
Trailer Cargo: MTV W/Drop sides M1095	T95555	\$50,433	2,346	2,344	2,340	2,340	2,340
Trailer Cargo: High Mobility 1-1/4 ton	T95924	\$9,615	2,017	1,934	1,934	1,930	1,930
Light Tactical Trailer: 3/4 ton	T95992	\$27,859	4,821	4,663	4,663	4,509	4,509
Trailer Flat Bed: M1082 Trailer Cargo LMTV W/Drop sides	T96564	\$38,200	1,557	1,562	1,562	1,551	1,551
Trailer Bolster: General Purpose 4-ton 4-wheel W/E	W94536	\$9,618	172	172	172	172	172
Trailer Cargo: 1-1/2 ton 2-wheel W/E	W95811	\$50,433	3	2	2	2	2
<b>Trucks</b>							
Joint Light Tactical Vehicle A1 – Heavy Gun Carrier	J05026	\$461,272	492	1,398	1,398	1,398	1,398
Joint Light Tactical Vehicle A1 – Two Seat Utility	J05028	\$286,600	49	120	120	120	120
Joint Light Tactical Vehicle A1 – Four Seat General Purpose	J05029	\$423,721	55	208	208	208	227
Joint Light Tactical Vehicle – Heavy Gun Carrier	J05031	\$285,154	197	197	197	212	323
Joint Light Tactical Vehicle – Two Seat Utility	J05032	\$278,735	0	0	0	0	107
Joint Light Tactical Vehicle – Four Seat General Purpose	J05033	\$277,374	0	0	0	0	134
Truck Tractor: M107A1	T05012	\$550,000	357	357	357	357	484
Truck: M1075A1 with ECHU	T05063	\$684,000	1,367	1,367	1,367	1,367	1,386
Truck, Dump Heavy	T05109	\$319,075	225	225	225	225	357
Truck Utility: Heavy Variant HMMWV 10000 GVW W/E	T07679	\$94,171	8,194	7,948	7,948	7,767	7,767
Truck Utility: ECV Armament Carrier - Armor Ready M1151A1	T34704	\$129,376	2,169	2,169	2,169	2,169	2,169
Truck Utility ECV TOW/ITAS Carrier - Armor Ready: M1167	T34840	\$207,760	8	8	8	8	8
Truck Utility Expanded Capacity Enhanced: M1152A1	T37588	\$153,760	1,231	1,201	1,201	1,201	1,201

**Consolidated Major Item Inventory and Requirements**

Nomenclature	Equip No.	Unit Cost	Begin FY 2024 QTY O/H	Begin FY 2025 QTY O/H	Begin FY 2026 QTY O/H	End FY 2026 QTY O/H	End FY 2026 QTY REQ
Truck Ambulance: 4-Litter Armored HMMWV	T38844	\$96,466	510	510	510	518	518
Truck Cargo: 5-ton 6X6 MTV W/E LAPES/AD	T41036	\$210,180	5	5	5	5	5
Truck Cargo: 5-ton WO/Winch	T41515	\$301,989	2,797	2,797	2,797	2,797	3,287
Truck Materials Handling-Container Hoisting: M1148A1P2	T54516	\$899,231	14	36	36	40	40
Truck Palletized (LHS): M1120A4	T55054	\$550,000	603	603	603	603	635
Truck Utility Expanded Capacity Enhanced 4X4: M1165A1	T56383	\$153,760	1,245	1,175	1,175	1,174	1,174
Truck Tank: WO/Winch	T58318	\$597,000	399	399	399	397	397
Truck Cargo: M985A4	T59380	\$575,000	78	78	78	78	78
Truck Cargo: WO/Winch	T59448	\$157,982	2,001	2,001	2,001	2,001	2,231
Truck Tractor: LET	T60946	\$616,000	924	924	924	924	924
Truck Tractor: Line Haul C/S 50000 M915	T61103	\$162,698	1,517	1,517	1,517	1,517	1,517
Truck Tractor: MTV W/E	T61239	\$262,509	317	316	316	316	316
Truck Van: M1079A1P2 WO/Winch	T62359	\$280,000	191	191	191	191	191
Truck Wrecker: Tactical 8X8 HEMTT W/Winch	T63093	\$503,382	1	3	3	3	3
Truck Wrecker: M984A4	T63161	\$963,000	465	465	465	465	472
Truck Dump: 10-ton W/Winch	T65274	\$383,892	115	115	115	115	115
Truck Dump: 10-ton WO/Winch	T65342	\$322,656	524	524	524	524	524
Truck: Expandable Van WO/Winch	T67136	\$455,000	301	311	311	311	311
Truck: Palletized Loading System (PLS) M1075A1	T81874	\$628,000	160	160	160	160	299
Tractor Line Haul: M915A5	T88858	\$162,968	972	972	972	972	971
Truck Tractor: WO/Winch	T88983	\$294,508	829	829	829	829	910
Truck Tractor: LET 6X6 66000 GVW W/W C/S	T91656	\$250,614	36	36	36	36	36
Truck Wrecker: MTV W/E W/W	T94709	\$331,680	18	18	18	16	16
Truck Cargo: LWB WO/Winch	T93271	\$309,428	360	354	354	354	354
Truck Wrecker	T94671	\$480,000	146	146	146	145	145
Truck Cargo: Tactical 8X8 HEMTT w/LHS	T96496	\$367,575	1	3	3	3	3
Truck Dump: 20-ton DED 12 cu-yd Cap (CCE)	X44403	\$211,764	309	309	309	309	357

**USAR**  
**Average Age of Equipment**

Table 2

*NOTE: This table provides the average age of selected major equipment items. The average age provides a projected average age of the fleet at the start of FY 2019.*

Nomenclature	Equip No.	Average Age	Remarks
<b>Aircraft</b>			
CH-47F Improved Cargo Helicopter	C15172	10	
Helicopter Utility, UH-60L	H32361	27	
Helicopter, medevac, HH-60M	M33458	10	
Utility Cargo Aircraft UC-35A	U05004	24	
<b>Combat Mobility</b>			
Armored Vehicle Launched Bridge (AVLB) Scissors: 63-ft MLC 70	B31098	25	
Interior Bay Bridge Floating	K97376	12	
Launch M60 Series Tank Chassis Transpt: 40/60ft Bridge	L43664	42	
Loader Scoop Type: DSL 2-1/2 cu yd w/Multi Purpose Bucket	L76556	35	
Ramp Bay Bridge Floating	R10527	11	
Transporter Common Bridge	T91308	19	
<b>Field Logistics</b>			
Kitchen Field Trailer-mtd Mtd on M103A3 Trailer	L28351	28	
Laundry Advanced System (LADS) Trailer-mtd	L70538	16	
Water Purification: Reverse Osmosis 3000-gph Trailer mtd	W47225	26	
Trailer Tank Water: 400-gal 1-1/2 ton	W98825	43	
<b>General Engineering</b>			
Crane: Whl-mounted Hydraulic 25-ton All Terrain AT422T	C36586	20	
Tractor FT HS: Deployable Lt Engineer (DEUCE)	T76541	25	
Excavator: hydraulic Type 1 Multipurpose Crawler	E27792	21	
<b>Maneuver Combat Vehicles</b>			
Carrier Personnel Full Tracked: Armored (RISE)	C18234	35	
Carrier Armored Command Post: Full Tracked	C11158	36	
<b>Trailers</b>			
Semitrailer Tank: 5K-gal Bulk Haul Self-Load/Unload	S10059	28	
Semitrailer Flatbed: Breakbulk/Container Transporter 34-ton	S70159	32	
Semitrailer Low Bed: 25-ton 4-wheel	S70517	51	
Semitrailer Low-bed: 40-ton 6-wheel	S70594	29	

**USAR**  
**Average Age of Equipment**

Table 2

Nomenclature	Equip No.	Average Age	Remarks
Semitrailer Low-bed: 70-ton Heavy Equip Transporter (HET)	S70859	23	
Semitrailer Tank: Petroleum 7500-gal Bulk Haul	S73119	29	
Trailer Cargo: High Mobility 1-1/4-ton	T95924	12	
<b>Trucks</b>			
Truck Ambulance: 4-Litter Armored HMMWV	T38844	12	
Truck Dump: 20 Ton DSL 12 cu yd Capacity (CCE)	X44403	25	
Truck Tractor: Heavy Equipment Transporter (HET)	T59048	27	
Truck Tractor: Line Haul C/S 50000 M915	T61103	19	
Truck Tank: Fuel Servicing 2500-gal 8x8 Heavy Expanded Mobility	T87243	22	
Truck Tractor: MTV W/E	T61239	25	
Truck Wrecker: Tactical 8x8 Heavy Expanded Mobility w/ Winch	T63093	27	

## Service Procurement Program - Reserve (P-1R)

*NOTE: This table provides a comparison of the dollar value of the FY 2021 request, the FY 2021 enacted amount; and, the actual amount spent on procurement for specific categories of RC equipment. All values are costs in millions. Deliveries of procured equipment normally take one to two years before they arrive in the inventory; e.g., items procured in FY 2023 are expected to arrive in RC inventories in FY 2024 or FY 2025.*

Nomenclature	Request	Enacted	Actual
Tactical Vehicles	192	222	230
Elect Equip - Tactical Surv. (Tac Surv)	29	29	44
Bridging Equipment	37	33	26
Engineer (Non-Construction) Equipment	34	25	23
Construction Equipment	17	18	21
Comm - Satellite Communications	12	12	21
Information Security	11	16	18
Comm - Joint Communications	23	23	16
Combat Service Support Equipment	4	7	14
Modification of Aircraft	7	12	11
Generators	3	7	9
Training Equipment	7	7	7
Material Handling Equipment	6	6	7
Medical Equipment	7	7	7
Other Support Equipment	4	4	7
Petroleum Equipment	6	7	5
Comm - C3 System	5	4	4
Elect Equip - Tactical C2 Systems	4	6	4
Test Measure and Dig Equipment (TMD)	1	6	3
Comm - Combat Communications	4	2	2
Maintenance Equipment	7	6	2
Chemical Defensive Equipment	1	1	1
Elect Equip - Audio Visual Sys (A/V)	1	1	1
Other Support	4	0	0
<b>Total</b>	<b>425</b>	<b>459</b>	<b>484</b>



**National Guard and Reserve Equipment Account (NGREA) Procurements**

*NOTE: This table identifies the dollar value of planned equipment procurements with the National Guard and Reserve Account (NGREA). These funds are available for a three-year period from the year of appropriation. Deliveries of procured equipment normally take one to two years from the date of procurement before they arrive in the inventory.*

<b>Army Reserve Defense Appropriations Act NGREA</b>	<b>FY 2021</b>	<b>FY 2022</b>	<b>FY 2023<sup>1</sup></b>
<b>Mission Command</b>			
Command and Control Systems	6,175,000	1,950,000	
Radio Platforms	510,000	255,000	
Tactical Networking System	2,000,000	2,000,000	
Satcom System	1,500,000	1,500,000	
Tactical Digital Media	160,000	160,000	
<b>Engineer</b>			
Crane	4,250,000	4,900,000	
Heavy Dump Truck	22,500,000	10,000,000	
High Mobility Engineer Excavator (HMEE)	5,400,000		
Bridge Supplemental Set		1,200,000	
Vertical Skills Construction Kit	1,400,000	280,000	
Survey Equipment		1,400,000	
Hydraulic Excavator	2,000,000	2,000,000	
Hydraulic Electric Pneumatic and Petroleum Operated Equipment (HEPPOE)		3,430,000	
Assault Craft	95,000		
Assault Craft Motors	135,000		
<b>Field Logistics</b>			
Material Handling Equipment	3,750,000	6,825,000	
Mobile Tactical Retail Refueling System	1,360,000	6,180,000	
Load Handling System: 2000G Water (HIPPO)	3,500,000	3,500,000	
Tracked Vehicle Diagnostic Shop Set	7,500,000		
Multi-Temperature Refrigerated Container System		8,020,000	
Liquid Logistics Production and Storage	1,000,000	1,000,000	
Logistics Support Area Package Bulk Fuel Distribution	350,000		
Bulk Fuel Distribution System	12,150,000	1,350,000	
Medical Support Equipment	3,750,000	3,000,000	
Medical Equipment Sets	2,350,000		
Medical Training Sets		2,000,000	
Shop Equipment Welding	3,250,000		

**National Guard and Reserve Equipment Account (NGREA) Procurements**

<b>Army Reserve Defense Appropriations Act NGREA</b>	<b>FY 2021</b>	<b>FY 2022</b>	<b>FY 2023<sup>1</sup></b>
Maintenance Fabrication and Repair Equipment		3,250,000	
Mobile Integrated Remains Collection System (MIRCS)		10,800,000	
Refrigerated Tool Kit		1,980,000	
Shop Equipment Contact Maintenance		5,250,000	
Wireless AT-Platform Test Set (WATS)		2,625,000	
Maintenance Support Device	990,000	945,000	
Storage Systems		6,000,000	
<b>Tactical Wheeled Vehicles</b>			
Light Tactical Vehicle Modernization (JLTV&HMMWV)	8,250,000	3,300,000	
Palletized Loading System	5,700,000	18,000,000	
HEMTT Modernization	10,000,000	25,175,000	
Load Handling System	3,750,000		
Medium Tactical Truck	8,250,000	1,500,000	
Heavy Trailer	2,000,000	3,250,000	
Medium Utility Trailer	1,000,000	1,000,000	
Light Utility Trailer	4,125,000	375,000	
Small Unmanned Ground Vehicle	1,200,000		
<b>Tactical Power</b>			
Fuel Efficient/Clean Power Generators	1,600,000	750,000	
Power Distribution Systems	3,500,000	1,750,000	
Environmental Control Units	450,000	75,000	
<b>Force Protection</b>			
Individual Tactical/Safety Equipment	1,000,000	110,000	
Night Vision Device	450,000	240,000	
Shelters	500,000	500,000	
Intrusion Detection System	250,000		
<b>Simulators</b>			
Drivers Trainer	7,200,000	2,000,000	
Marksmanship Trainer	1,600,000	2,625,000	
Space Trainer	7,500,000		
Maintenance Trainer	100,000	50,000	
<b>Transportation Reserve</b>		2,500,000	
<b>Total USAR NGREA</b>	<b>154,500,000</b>	<b>155,000,000</b>	<b>137,000,000</b>

1. FY 2023 spending data was not available at time of publication.

**Projected Equipment Transfers and Withdrawals**

*NOTE: This table portrays the planned equipment transfers (Active to Reserve), withdrawals (-), and decommissioning (-). Transferred equipment is commonly called "cascaded equipment," or equipment that is provided to the RC once the AC receives more modern equipment. Although this table highlights a three-year period, many Services will not know exact quantities of transfers or withdrawals until year of execution, due to the uncertainty of the procurement/delivery cycle of new equipment.*

Nomenclature	Equip No.	FY 2024 Qty	FY 2025 Qty	FY 2026 Qty	Remarks
<b>Battlespace Awareness</b>					
Workstation, Geospatial Intelligence: AN/TYQ-71(V)	D11498		-106		
<b>Battle Command Transport</b>					
Antenna: AB-1404/TRC	A81826			-6	
Central Office: Telephone Automatic	C20617			-2	
Joint Node Network (JNN) Central Office Telephone Auto	J05001			-4	
Radio Terminal Set: AN/TRC-170 (V)3	R93035	-1	-1	-1	
Radio Terminal: Line of Sight Multi-channel AN/TRC-190E(V)1	R90451	-74			
Radio Terminal: Line of Sight Multi-channel AN/TRC-190F(V)3	R90587			-10	
Teleconference System: AN/TYQ-122	T43146		+2	-2	
Terminal: Satellite Communication AN/TSC-155	T81733			+1	
<b>Combat Mobility</b>					
High Mobility Engineer Excavator (HMEE) Type I	H53576	-25			
Tractor Wheeled: Industrial	T34505		-2		
<b>Field Logistics</b>					
Trailer Tank Water: 400-gal 1.5-ton 2-wheel	W98825	-12			
<b>Force Protection</b>					
Alarm Biological Agent Automatic: (BIDS) M31A2	A48680	-56		-56	
Mask Chem-Bio Joint Service General Purpose: Field M50	M12986	-1,017	-654		
Mask Chem-Bio Joint Service General Purpose: Combat Vehicle Crewman M51	M13236			+16	
<b>Medical</b>					
Computerized Tomography Scanner Field	C79284			+1	
Medical Materiel Set Maxo-Facial head Neck Surg Augmentation	M09098			+1	
Medical Materiel Set Radiology Computerized Tomography	M09826			+1	
Medical Materiel Set Neurosurgery Augmentation: DEPMEDS	M48305			+1	
<b>Soldier Weapons</b>					
Carbine 5.56mm: M4A1	C06935	-320		-601	
Launcher Grenade: M320A1	L69080	-64		-64	
Machine Gun Caliber .50: HB Flexible (Ground & Vehicle) W/E	L91975	-4			
Machine Gun 5.56mm: M249	M09009	-44		-80	

**Projected Equipment Transfers and Withdrawals**

Nomenclature	Equip No.	FY 2024 Qty	FY 2025 Qty	FY 2026 Qty	Remarks
Machine Gun: Caliber .50	M39331	-11		-18	
Machine Gun Grenade 40mm: MK19 Mod III	M92362			-3	
Pistol 9mm: M11	P47365	-330			
Pistol 9mm Automatic: M9	P98152	-3,621			
<b>TRAILERS</b>					
Semitrailer Low Bed: 25-ton 4-wheel W/E	S70517	+2		-2	
Trailer: Palletized Loading 8X20	T93761	-58		-6	
Trailer Cargo: MTV W/Drop sides M1095	T95555	-2	-4		
Trailer Cargo: High Mobility 1-1/4 ton	T95924	-83		-4	
Light Tactical Trailer: 3/4 ton	T95992	-158		-154	
Trailer Flat Bed: M1082 Trailer Cargo LMTV W/Drop sides	T96564	+5		-11	
Trailer Cargo: 1-1/2 ton 2-wheel W/E	W95811	-1			
<b>Trucks</b>					
Truck Utility: Heavy Variant HMMWV 10000 GVW W/E	T07679	-246		-181	
Truck Ambulance: 4-Litter Armored HMMWV	T38844			+8	
Truck Utility Expanded Capacity Enhanced 4X4: M1165A1	T56383	-70		-1	
Truck Tank: WO/Winch	T58318			-2	
Truck Tractor: MTV W/E	T61239	-1			
Truck Wrecker: Tactical 8X8 HEMTT W/Winch	T63093	+2			
Truck: Expandable Van WO/Winch	T67136	+10			
Truck: Palletized Loading System (PLS)	T81874	-7		+7	
Truck Wrecker: MTV W/E W/W	T94709			-2	
Truck Wrecker	T94671			-1	
Truck Cargo: Tactical 8X8 HEMTT w/LHS	T96496	+2			

**FY 2020 Planned vs Actual Procurements and Transfers**

*NOTE: This table compares planned Service procurements and transfers to the RC in FY 2020 with actual procurements and transfers. FY 2020 is selected as these are the most recent funds to expire. Because the procurement cycle is normally one to two years from funding to delivery, this table identifies only deliveries through the end of 2022. Procurement and NGREA columns reflect cost values in dollars. In FY 2020, \$1.3 billion of NGREA was reprogrammed by DoD.*

Nomenclature	Equip. No.	FY 2020 Transfers (# of items)		FY 2020 Procurements (\$s)		FY 2020 NGREA (\$s)	
		Plan	Actual	Plan	Actual	Plan	Actual
<b>FY 2020 Planned Transfers &amp; Withdrawals</b>							
<b>Aircraft</b>							
CH-47F Improved Cargo Helicopter	C15172	-8	0				
Helicopter Utility: UH-60L	H32361	-8	0				
<b>Aviation</b>							
Power Unit Auxiliary: Aviation Multi-Output	P44627	-1	0				
<b>Battlespace Awareness</b>							
Computer Set: Digital AN/TYQ-151v1	C61191	0	2				
Utility Receptacle	U89185	0	1				
<b>Field Logistics</b>							
Multimeter	M05023	0	+2				
Sanitation Center: Food	S33399	0	1				
<b>Soldier Weapons</b>							
Carbine 5.56 Millimeter M4A1	C06935	0	2				
Pistol 9MM Automatic	P98152	0	4				
<b>Trailers</b>							
Trailer Flat Bed: M1082 Trlr Cgo LMTV	T96564	-1	0				
<b>Trucks</b>							
Truck Utility M1152A1	T37588	0	1				
Truck Palletized (LHS): M1120A4	T55054	-1	0				
Truck Tractor: Line Haul C/S 50000 M915	T61103	+24	0				
<b>FY 2020 Service Procurement Programs – RC (P-1R) Equipment</b>							
<b>Modification of Aircraft</b>							
Network and Mission Plan				4,944,000	6,876,000		
Comms, Nav Surveillance				11,432,000	1,008,000		
GATM Rollup				1,549,000	902,000		
<b>Support Equipment and Facilities</b>							
Common Ground Equipment				6,862,000	166,000		
Aircrew Integrated Systems				8,046,000	672,000		

**FY 2020 Planned vs Actual Procurements and Transfers**

Nomenclature	Equip. No.	FY 2020 Transfers (# of items)		FY 2020 Procurements (\$s)		FY 2020 NGREA (\$s)	
		Plan	Actual	Plan	Actual	Plan	Actual
Air Traffic Control				748,000	2,623,000		
<b>Weapons and Other Combat Vehicles</b>							
M4 Carbine Mods				891,000	891,000		
Compact Semi-Automatic Sniper System				147,000	70,000		
Carbine				16,076,000	16,076,000		
<b>Tactical and Support Vehicles</b>							
Tactical Trailers/Dolly Sets				4,419,000	3,768,000		
Semitrailers, Flatbed:				24,156,000	37,704,000		
Joint Light Tactical Vehicle				0	212,720,000		
Truck, Dump, 20t (CCE)				4,387,000	3,716,000		
Family of Medium Tactical Veh (FMTV)				14,143,000	24,707,000		
Modification of In Svc Equip				55,287,000	13,657,000		
<b>Communications and Electronics Equipment</b>							
Communications Security (COMSEC)				12,803,000	9,780,000		
Night Vision Devices				797,000	638,000		
Small Tactical Optical Rifle Mounted MLR				306,000	258,000		
Family of Weapon Sights (FWS)				1,738,000	0		
Joint Battle Command - Platform (JBC-P)				39,869,000	3,068,000		
Signal Modernization Program				0	1,161,000		
COE Tactical Server Infrastructure (TSI)				7,609,000	845,000		
Fire Support C2 Family				500,000	281,000		
DCGS-A (MIP)				4,754,000	0		
DCGS-A-INTEL				0	4,754,000		
TROJAN (MIP)				150,000	0		
Network Management Initialization				1,855,000	0		
SHF Term				2,000,000	0		
Family of Med Comm for Combat Casualty				2,409,000	3,514,000		
Global Brdcst Svc - GBS				1,000,000	1,000,000		
Reserve Component Automation Sys (RCAS)				11,152,000	11,152,000		
Reconnaissance and Surveying Instrument				2750000	1598000		
Items Less Than \$5M (Surveying Equipment)				1,666,000	671,000		
<b>Other Support Equipment</b>							
Heaters and ECU'S				2,000,000	510,000		
Integrated Family of Test Equipment (IFT				852,000	1,275,000		

**FY 2020 Planned vs Actual Procurements and Transfers**

Nomenclature	Equip. No.	FY 2020 Transfers (# of items)		FY 2020 Procurements (\$s)		FY 2020 NGREA (\$s)	
		Plan	Actual	Plan	Actual	Plan	Actual
Generators and Associated Equip				7,178,000	7,082,000		
Test Equipment Modernization (TEMOD)				1,759,000	1,699,000		
Mobile Maintenance Equipment Systems				4,710,000	5,722,000		
Modification of In-Svc Equipment (OPA-3)				1,205,000	455,000		
Training Devices, Non-system				11,105,000	11,979,000		
Handheld Standoff Minefield Detection System				1,892,000	957,000		
Grnd Standoff Mine Detectn System (GSTAMID)				12,562,000	0		
Husky Mounted Detection System (HMDS)				23,433,000	12,959,000		
Tactical Bridge, Float-Ribbon				41,186,000	16,406,000		
Bridge Supplemental Set				4,900,000	370,000		
Common Bridge Transporter (CBT) Recap				0	5,843,000		
CBRN Defense				2,358,000	198,000		
Tractor, Full Tracked				604,000	0		
Distribution Systems, Petroleum & Water				8,912,000	3,314,000		
All Terrain Cranes				5,129,000	11,202,000		
Robotic Combat Support System (RCSS)				1,340,000	1,108,000		
Robotics and Applique Systems				4,416,000	0		
Family of Forklifts				7,205,000	6,399,000		
Aviation Combined Arms Tactical Trainer				1,152,000	1,152,000		
Gaming Technology In Support of Army Training				957,000	957,000		
High Mobility Engineer Excavator (HMEE)				6,870,000	7,586,000		
Combat Support Medical				8,554,000	13,165,000		
Family of Boats and Motors				864,000	0		
Construction Equip Esp				11,739,000	8,165,000		
Items Less Than \$5.0M (Construction Equip)				2,477,000	0		
Family of Engr Combat and Construction System				2,229,000	1,486,000		
Items Less Than \$5.0M (Maint Eq)				979,000	719,000		
<b>Spare and Repair Parts</b>							
Initial Spares - C&E				0	189,000		
<b>Total</b>				<b>423,012,000</b>	<b>485,173,000</b>		
<b>FY 2020 National Guard and Reserve Equipment Account (NGREA) Equipment</b>							
<b>Total</b>						<b>0</b>	<b>0</b>

## USAR Major Item of Equipment Substitution List

**NOTE:** This table identifies equipment authorized by the Service to be used as a substitute for a primary item of equipment. The table also identifies whether or not the item is able to be deployed in wartime. This data meets the Title 10 requirement to identify equipment that is not the most desired item of equipment.

Required Item Nomenclature	Reqd Item Equip No.	Substitute Item Nomenclature	Substitute Item Equip No.	FY 2024 Qty	Deployable?	
					Yes	No
<b>Aircraft</b>						
Utility Cargo Aircraft: UC-35A	U05004	Airplane: Utility: UC-35B	A05015	5	X	
<b>Battle Command Transport</b>						
Radio Terminal: Line of Sight Multi-Channel AN/TRC-190E(V)1	R90451	Radio Terminal: Line of Sight Multi-Channel AN/TRC-238(V)2	R05031	25	X	
Radio Terminal: Line of Sight Multi-Channel AN/TRC-190F(V)3	R90587	Radio Terminal: Line of Sight Multi-Channel AN/TRC-238(V)1	R05029	5	X	
<b>Combat Mobility</b>						
Bridge, Heavy Assault Scissoring	B31098	Bridge Armor Veh Launch Scissor TY: CL 60 ALUM 60 FT Length of Span	C20414	25	X	
Loader Scoop Type: DSL 2-1/2CU YD Hinge Frame	L76556	Loader Scoop Type: 2.5 Cubic Yard	L76897	8	X	
Detecting Set: Mine AN/PSS-14	D03932	Detecting Set Mine: AN/PSS-11	G02341	340	X	
Detecting Set :Mine AN/PSS-14C	D05016	Detecting Set Mine: AN/PSS-11	G02341	472	X	
High Mobility Engineer Excavator (HMEE) Type IV	H05017	Tractor Wheeled: Industrial	T34505	45	X	
<b>Field Logistics</b>						
Light Capability Rough Terrain Forklift: 5K	L05010	Truck Lift: Fork Variable Reach Rough Terrain	T73347	164	X	
Light Capability Rough Terrain Forklift: 5K	L05010	Truck Lift Fork: Diesel Driven 4000lb Capacity Rough Terrain	T49255	78	X	
Rough Terrain Container Handler (RTCH): Kalmar RT240	R16611	Truck Lift Fork: DED 50K lb Container Handler Rough Terrain 48-in LC	T48941	12	X	
Trailer Tank: Water 400 Gal 1-1/2T 2 Wheel	W98825	Trailer Tank: Water (Camel) 800Gal 5T W/E	T05047	11	X	
<b>General Engineering</b>						
Excavator; Hydraulic (HYEX) Multipurpose Crawler mount	EZ7792	Tractor Full Tracked Low Speed: DSL MED DBP w/ BULDOZ W/ SCARIF Winch	W76816	21	X	



## USAR Major Item of Equipment Substitution List

Required Item Nomenclature	Reqd Item Equip No.	Substitute Item Nomenclature	Substitute Item Equip No.	FY 2024 Qty	Deployable?	
					Yes	No
Motorized Grader	M05001	Grader Motorized: Diesel Driven Heavy (CCE)	G74783	4	X	
Scraper Earthmoving: 14-18 CU YD	S05029	Scraper Earthmoving - Self Propelled 14-18 Cubic Yards (CCE)	S56246	52	X	
Tractor Full Tracked Low Speed T9	T05015	Tractor Full Tracked Low Speed: DSL MED DBP w/ BULDOZ W/ SCARIF Winch	W76816	2	X	
Tractor Full Tracked Low Speed T9 Type II w/Ripper	T05016	Tractor Full Tracked Low Speed: DSL MED DBP w/ BULDOZ W/ SCARIF RIPPER	W83529	24	X	
Tractor FT HS: Deployable LT Engineer (Deuce)	T76541	Tractor full racked low Speed: DSL MED DBP W/ BULDOZ W/ SCARIF WINCH	W76816	4	X	
Maneuver						
Carrier Armored Command Post: Full Tracked	C11158	Carrier Command Post: Light Tracked	D11538	19	X	
<b>Soldier Weapons</b>						
Carbine 5.56mm: M4A1	C06395	Rifle 5.56 Millimeter: M16A2	R95035	2291	X	
Carbine 5.56mm: M4A1	C06395	Rifle 5.56 Millimeter: M4	R97234	969	X	
Machine Gun: Light 5.56MM M249	M39263	Machine Gun 5.56mm: M249	M09009	648	X	
Machine Gun: Caliber 50	M39331	Machine Gun Caliber 50: HB Flexible (Ground 7 Vehicle) W/E	L91975	1339	X	
<b>Trailers</b>						
Palletized Load System: Trailer-CTE	P05025	Trailer: Palletized Loading 8x20	T93761	180	X	
Trailer Cargo: MTV w/Dropsides M1095	T95555	Trailer Flatbed: 5T 4 Wheel General Purpose	T96883	18	X	
Trailer Cargo: High Mobility 1-1/4 ton	T95924	Light Tactical Trailer; 3/4T	T92992	72	X	
Trailer Cargo: 1-1/2 ton 2-wheel W/E	W95811	Trailer Flat Bed: M1082 Trailer Cargo LMTV w/ Dropsides	T96564	10	X	
<b>Trucks</b>						
Joint Light Tactical Vehicle Heavy Gun Carrier	J05031	Truck Utility: ECV Armament Carrier w/IAP Armor Ready M1151A1	T34704	996	X	
Joint Light Tactical Vehicle 2 Seat Utility	J05032	Truck Utility: Hvy Variant HMMWV	T07679	43	X	

## USAR Major Item of Equipment Substitution List

Required Item Nomenclature	Reqd Item Equip No.	Substitute Item Nomenclature	Substitute Item Equip No.	FY 2024 Qty	Deployable?	
					Yes	No
Joint Light Tactical Vehicle 4 Seat Gen Purpose	J05033	Truck Utility: ECV Armament Carrier w/IAP Armor Ready M1151A1	T34704	125	X	
Truck: M1120A4 with ECHU	T05061	Truck Cargo: Tactical 8x8 Heavy Expanded Mobility w/LHS	T96496	87	X	
Truck: M1075A1 with ECHU	T05063	Truck Cargo: Heavy PLS Transporter 10x10	T40999	259	X	
Truck Utility: Heavy Variant HMMWV	T07679	M-ATV UI w/OGPK	M05030	337	X	
Truck Utility: Heavy Variant HMMWV	T07679	Truck Utility: M1152-Expanded Cap Enhanced	T11588	69	X	
Truck Utility: Heavy Variant HMMWV	T07679	Truck Utility Expanded Cap Enhanced M1152A1	T37588	286	X	
Truck Utility Expanded Cap Enhanced M1152A1	T37588	M-ATV UI w/CROW System	M05029	92	X	
Truck Cargo: 5T w/winch	T41515	Truck Cargo: MTV W/E w/Winch	T41135	79	X	
Truck Cargo: 5T w/winch	T41515	Truck Cargo: LWB wo/Winch	T93271	294	X	
Truck Palletized (LHS): M1120A4	T55054	Truck Cargo: Tactical 8x8 Heavy Expanded Mobility w/Crane	T59278	10	X	
Truck Palletized (LHS): M1120A4	T55054	Truck Cargo: Tactical 8x8 Heavy Expanded Mob w/LHS	T96496	78	X	
Truck Utility Expanded Capacity Enhanced 4x4 M1165A1	T56383	M-ATV UI w/CROW System	M05029	28	X	
Truck Tank: w/o winch	T58318	Truck Tank: Fuel Servicing 2500Gal w/winch	T58161	7	X	
Truck Tank: w/o winch	T58318	Truck Tank: Fuel Servicing 2500Gal 8x8 Heavy Expanded Mobility	T87243	27	X	
Truck Cargo: w/o winch	T59448	Truck Cargo: 2.5T w/Winch	T42131	196	X	
Truck Cargo: w/o winch	T59448	Truck Cargo: 4x4 LMTV w/e	T60081	1	X	
Truck Cargo: w/o winch	T59448	Truck Cargo: 4x4 LMTV w/e w/Winch	T60149	278	X	
Truck Tractor: (LET)	T60946	Truck Tractor: LET 6x6 w/Winch C/S	T91656	61	X	
Truck: Wrecker M984A4	T63161	Truck: Wrecker: Tactical 8x8 Heavy Expanded Mobility w/winch	T63093	23	X	
Truck: Expandable Van WO/Winch	T67136	Truck Van; Expandable MTV W/E M1087A1	T41271	65	X	

**USAR  
Major Item of Equipment Substitution List**

Required Item Nomenclature	Reqd Item Equip No.	Substitute Item Nomenclature	Substitute Item Equip No.	FY 2024 Qty	Deployable?	
					Yes	No
Tractor Line Haul: M915A5	T88858	Truck Tractor: Line Haul C/S 5000 GVWR 6x4 M915	T61103	403	X	
Truck Cargo: LWB w/o winch	T93271	Truck Cargo: MTV W/E	T61908	360	X	

**Significant Major Item Shortfalls**

*NOTE: This table provides the top ten prioritized (PR) shortage list for major items of equipment required for wartime missions which are currently not funded in the FYDP. It lists the total quantity required, number of items short, individual item cost, and the cost of the unfunded portion. This data is consistent with other unfunded data submitted by the Service.*

PR	Nomenclature	Total Req'd	# Items Short	Item Cost	Shortage Cost	Rationale / Justification
1	Load Handling System Compatible Water Tank Rack System (HIPPO)	484*	434	\$145K	\$17M	Army Reserve owns 50 percent of the EAB Water Support Units. The HIPPO provides the Army with the capability to receive, store and distribute potable water. Water production was eliminated from the BCT's, increasing distribution requirements from EAB units. Current O/H represents ~10% of total COMPO 3 requirement. COMPO 1 is currently fielded to ~88% and COMPO 2 is currently fielded to ~40%. Army Reserve requires 130 to support current Ready Force requirements.
2	3000 GPH Reverse Osmosis Water Purification System	78	78	\$846K	\$57M	Army Reserve owns 50% of the EAB Water Support Units. The 3K ROWPU provides the Army with the capability to purify fresh, salt and contaminated water. Water production was eliminated from the BCT's, increasing distribution requirements from EAB units. 3K ROWPU is past economical useful life and the readiness rate of the system is 63%. The Army Reserve provides 50 percent of the Water Support in the total Army. The 3K Tactical Water Purification System (TWPS) is the expected replacement for the 3,000 GPH Reverse Osmosis Water Purification Unit (ROWPU) obsolescence system. Funding to initiate Research, Development, Test, and Evaluation does not begin until FY 2023 and is expected to commence initial procurement in FY 2025. Force Development Logistics has recognized the importance of the modernization of the TWPS for the Army Reserve and has increased the quantity of procurement in FY 2026 and out-years.

**Significant Major Item Shortfalls**

PR	Nomenclature	Total Req'd	# Items Short	Item Cost	Shortage Cost	Rationale / Justification
3	Joint Battle Command - Platform (JBC-P)	15,119*	5,565	\$22.5K	\$125K	JBC-P replaces the Army's friendly force tracking system (Blue Force Tracker); however the two systems are not interoperable. So far, the Army Reserve has received 63% (9,554 of 15,119) of authorized systems. JBC-P is required for interoperability. USAR units will not be able to provide required enabler support without JBC-P. For the Army Reserve to conduct operations with other Army units, JBC-P fielding must remain on schedule. Maintain the JBC-P timeline. Fund the Army Reserve to fully field JBC-P by FY 2025.
4	Buffalo(Bison)	1,528	1,528	\$58K	\$73M	Water Bison is the modernized system for the legacy 400-gallon bulk water buffalo (M149) trailer, which is beyond useful economic life. The water bison will increase the unit water capacity from 400 gallons to 500 gallons. The Army Reserve currently has only 69 percent on hand of the 400-gallon water system, which is a shortage of 462 systems. The average operational rate of the legacy water systems is 58 percent creating a significant impact on mission readiness. The Army will have only procured 10 percent of the Water Bison requirement by FY 2026 due to the program being significantly underfunded.
5	TSiv2(Large/Small)	685	655	\$290	\$37M	TSiv2 Large The AN/TYK-26 provides virtualization and hosting of common operating environment (COE), cross cutting capabilities (CCC), Mission Command Enterprise, Collaboration, Network Operations (NETOPS), Defensive Cyber Operations (DCO) and other warfighting functional services. A (TSI)(V)2 Small version of CPCE software will be hosted on small servers provided by the Tactical Server Infrastructure (TSI) in order to reduce the physical footprint and support requirements for CORPs, Division, Brigade early entry and continuity during Battalion Command Post operations.

**Significant Major Item Shortfalls**

PR	Nomenclature	Total Req'd	# Items Short	Item Cost	Shortage Cost	Rationale / Justification
6	Line Haul Tractor - M915A5; 7.5K Petroleum Semitrailer	2820*	1,835	Varies	\$533M	The Army Reserve owns 50% of the total Army line haul capability, to include 90% of the bulk petroleum transportation assets. The M915 contract expired in FY 2014 before Army Reserve completed fielding the M915A5 armor capable variant. Only 42% (985/2340) of the existing Army Reserve M915 fleet is armor capable. The entire 7,500 gallon tanker semitrailer fleet (480) exceeds economic useful life. Army investment strategy to replace 7.5K tankers begins in FY 2022 and the no current plan to replace the tractor before FY 2026.
7	Joint Assault Bridge (JAB)	36*	36	\$5.77M	\$207M	The Joint Assault Bridge (JAB) is a modified M1 tank platform replacement for the legacy Armored Vehicle Launched Bridge (AVLB) M60 tank chassis capability. A Force Design Update transformed six of the Army Reserves Mobility Augmentation Companies to Combat Engineer Companies (Armored). Each of these six companies require six JABs for a total requirement of 36. Based on the projected procurement plan & fielding time horizon, the Army Reserve will begin fielding in FY 2026 with an anticipated completion in FY 2030.
8	Mobile Tactical Retail Refueling System (MTRRS)	1,183	1,183	\$61K	\$59M	The Mobile Tactical Retail Refueling System (MTRRS) is a 900 gallon capacity fuel tank, 17 gallons per minute electric fuel motor/pump, a filter separator, and a flow meter. The MTRRS will replace the Tank Pump Unit (TPU) and Tank Unit Liquid Dispensing (TULD) systems. The MTRRS is an ACAT Level III. Army Reserve is only authorized 40% between all COMPOs and expected to be at 25% fulfillment by FY 2027. Current estimated production completion is FY 2045. If delayed, Units will have to rely on outdated Tank and Pump Units (TPU) which have exceeded their Economic Useful Lives (EUL).
9	FMTV A2	10,171	7,399	~\$400K	~\$1.2B	The A2 model will be fielded starting in FY 2023 and is equipped with several upgrades from the armor capable A1P2 model. Sufficient quantities of the A2 model will not be fielded due to reduced funding and delayed production.

**Significant Major Item Shortfalls**

PR	Nomenclature	Total Req'd	# Items Short	Item Cost	Shortage Cost	Rationale / Justification
10	Light Tactical Vehicle (JLTV)	15, 585	14,802	~\$375K	~\$45B	Fielding of the JLTV has helped to increase the armor capable LTV fleet, however there are no distributions planned for the Army Reserve beyond FY 2024 which will keep our LTV fleet less than 40 percent armor capable. As a result of production and feilding delays, the Army Reserve will have only 12 percent of the current JLTV requirement on-hand by the end of FY 2026.

## Chapter 3

# United States Marine Corps Reserve (USMCR)

### I. Marine Corps Overview

The Marine Corps is and will remain “most ready when the Nation is least ready”; a force in readiness to respond anywhere, anytime, to any crisis.<sup>1</sup> It is essential to our identity as Marines to be “America’s 911 Force.” “In these times of increasing complexity and uncertainty, the nation needs one force, maintained at the highest levels of readiness that can respond to the crises that few saw coming. **We are that force.**”<sup>2</sup>

“The suggestion that we have to choose between preparing to fight tonight, which we are ready to do, or preparing for some distant point in the future presents a false dichotomy. We must balance the very real and delicate resource tension between the force we employ today, and the development of the force needed for the future. Our Nation can no longer afford to hold onto capabilities that do not create a relative advantage over our potential adversaries at the expense of capabilities that will keep us ahead of them—no matter how culturally significant or nostalgic to an individual service those capabilities may be.”<sup>3</sup> “While the need to train and equip our Marines and Sailors with modern capabilities and equipment that create advantage is beyond dispute, what is also beyond dispute is that those individuals—the individual Marine and Sailor—are a source of competitive advantage for the service and for the larger joint force, and will always be the most important resource.”<sup>4</sup>

### A. Marine Corps Planning Guidance

#### 1. Strategic Concept of the Marine Corps

We are committed to optimizing our force structure for crisis response and forward presence.

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<sup>1</sup> Commandant of the Marine Corps, *Statement before Congressional Defense Committees*, March, 2022, p. 3.

<sup>2</sup> *Ibid*, p. 3.

<sup>3</sup> *Ibid*, p. 2.

<sup>4</sup> *Ibid*, p. 24.



“Today, world events emphasize our need to rapidly adapt in order to help the joint force deter, and if necessary, defeat, a peer competitor. The newly released 2022 National Defense Strategy establishes the importance of the coming “decisive decade,” and the need for new approaches to the strategic challenges in our future. The tenets of the strategy—integrated deterrence, campaigning, and build enduring advantages—call for fresh thinking with respect to military capabilities...The Marine Corps does not have the luxury of focusing on a single threat, to the exclusion of all others, and basing our design on such a narrow point of view. We are building a force capable of executing our concepts, not a force *exclusively tailored* to them. **The Marine Corps remains an expeditionary crisis response force...**A force composed of highly capable tactical units that can perform combined arms operations at all echelons, enabled by organic air and logistics, is a force that can execute complex missions defined by our emerging concepts in any potential theater.”<sup>5</sup>

## 2. Marine Corps Total Force Concept

The Active Component (AC) and Reserve Component (RC) are integrated as one Marine Corps—a Total Force Marine Corps. The Marine Corps Reserve remains a vital contributor to the warfighting capability and capacity of the Naval Service and the Total Force Marine Corps. Reserve Marines are actively serving side-by-side with their AC counterparts. While the Marine Corps Reserve continues to support the current Service and Combatant Command requirements, we are also participating in the Marine Corps’ efforts to redesign our force and our warfighting capabilities to deter pacing threats as prescribed by the National Defense Strategy (NDS).<sup>6</sup> Throughout the past year, the Marine Corps Reserve has continued global deployments that support Combatant Commander (CCDR) requirements despite the continued challenges presented by COVID-19. The Marine Corps Reserve continues to meet the demand for use as an Operational Reserve; however, this remains a challenge to our readiness and ability to meet strategic requirements.<sup>7</sup> Moving forward to FY 2024 and beyond, the AC and RC Marine Corps will adjust to the direction provided by the Commandant’s Planning Guidance and Force Design implementation.

## B. Marine Corps Equipping Policy

Marine Corps Systems Command (MARCORSYSCOM) acquires ground equipment for the RC in accordance with the Total Force Approved Acquisition Objective (AAO). The Marine Corps develops the AAO for new equipment based on the approved capability requirement via the Joint Capabilities Integration and Development System (JCIDS) process. The AAO is the quantity of an item authorized to equip and sustain the Military Service in accordance with current DoD policies and plans. The Marine Corps develops the Total Force AAO using an integrated system of dynamic processes that capitalize on operational experience to identify, define, and meet the emerging needs of Marine

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<sup>5</sup> Commandant of the Marine Corps, Force Design 2030 Annual Update, May 2022, p. 1.

<sup>6</sup> Commander, Marine Forces Reserve, *Statement before the Senate Appropriation Committee Subcommittee on Defense Concerning The Guard and Reserve*, June 7, 2022, p. 3.

<sup>7</sup> Commander, Marine Forces Reserve, *Statement before the Senate Appropriations Committee Subcommittee on Defense Concerning The Guard and Reserve*, June 7, 2022, p. 4.

forces to support the CCDRs. This materiel management approach ensures that equipment sourced for the RC is consistent with the Marine Corps' equipping strategy and deployment schedule and the Commandant of the Marine Corps' guidance. In addition, it reduces distribution latency and improves the visibility and transparency of the equipment distribution process. RC units remain interoperable with their AC counterparts because of the Marine Corps' Total Force approach to equipment fielding and management. RC Forces are manned, trained, and equipped to standards that facilitate the seamless integrated employment of forces to meet CCDRs' requirements.<sup>8</sup>

### **C. Plan to Fill Equipment Shortages in the RC**

Reserve units maintain equipment based on the unit's Training Allowance (TA), which is the portion of the unit's full Table of Equipment (T/E) kept for training at the Reserve Training Centers. This method maintains the necessary amount of equipment to train, maintain, and store the TA within personnel and facility constraints. All equipment above the TA (the difference between the TA and the T/E) is stored at Marine Corps Logistics Bases and other "in stores" locations. The use of globally pre-positioned equipment brings RC units to full T/E equipping levels should the need arise. The Marine Corps has used this methodology, known as "global sourcing," effectively to satisfy RC and AC unit equipment shortfalls in prior FYs and will continue to use "global sourcing" as required in future FYs as dictated by mission requirements.

### **D. Initiatives Affecting RC Equipment**

Equipment modernization and improved readiness are the key factors that allow the Marine Corps to keep pace with future threats and preserve operational agility. Delays in investment funding have affected the Marine Corps' modernization efforts and its ability to divest legacy equipment. The Marine Corps Reserves' cost to maintain its legacy equipment continues to increase, which adversely affects unit training and overall readiness. However, continued involvement by the RC in fielding conferences is having a positive impact on the status of RC equipment. Reabsorbing Overseas Contingency Operations (OCO) funding into the baseline budget without subsequent increase in baseline funding will negatively impact the RC. In previous years, OCO funding enabled Marine Corps Logistics Command mobile maintenance support teams to travel to Reserve Training Centers and augment the limited organic maintenance capacity. This initiative increased RC equipment readiness and has received Congressional support in the past. Continued support for this capability is paramount to MARFORRES's continued success sustaining equipment and maintenance readiness.

The challenge of not receiving the equipment concurrently with the AC counterparts continues to affect the RC to AC equipment parity and readiness until late in the fielding process. "As we move aggressively to modernize the force, it is also important to make clear what is not changing. The Marine Corps' congressionally mandated role as a

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<sup>8</sup> Ibid, p. 10.

balanced combined arms team that is ‘most ready when the Nation is least ready,’ our ethos, our discipline, and our maneuver warfare approach is not changing.”<sup>9</sup> Readiness, which is defined as unit readiness to be deployed against a peer threat, and availability are not the same things. “Ready forces are those that create competitive warfighting advantages...true readiness is a hypothesis to be tested and proven via employment in combat and is not something that can be determined via availability alone.”<sup>10</sup> In line with published Force Design initiatives, the Marine Corps is increasing its focus on true readiness as it relates to relative warfighting advantage. A ready capability in the future must be one that is available when it is needed and that creates a strategic warfighting advantage against a specific threat in great power competition and conflict.<sup>11</sup>

### **E. Plan to Achieve Full Compatibility between AC and RC**

The Marine Corps continues to strive for horizontal (concurrent) fielding of new ground equipment to the AC and RC to maintain common and interchangeable capability sets within the Total Force. The Marine Corps Total Force fielding approach and push fulfillment sustainment policies contribute to RC units remaining interoperable with their AC counterparts. As the Marine Corps’ force structure changes move forward, they must be accomplished within the provided fiscal resources. The “divest-to-modernize” approach seeks to work within existing fiscal resources to accomplish modernization without requesting additional resources. The process of divesting legacy formations and systems is designed to create new capabilities for success in the modern operating environment.<sup>12</sup>

One of the RC’s greatest ongoing concerns is the individual combat clothing and equipment (ICCE) deficiencies, specifically ballistic protection and load-bearing equipment. The current versions of equipment have a higher overall sustainment cost and require an increase in Operations & Maintenance funding to support the sustainment requirements. “In the event of a large-scale wartime mobilization, to include any sizable call-up of the Individual Ready Reserve, individual combat clothing and equipment deficiencies may become a strategic risk to mission.”<sup>13</sup> Adjustments are needed on all fielding models with consideration given to the RC’s actual operational commitments. Without horizontal fielding and RC equipment fielding prioritization on plane with AC prioritization, full compatibility between AC and RC equipment is not possible. Continued Congressional support for Reserve funding in the FY 2024 budget is paramount to the Marine Corps Reserves’ success in sustaining our equipment and maintenance readiness.

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<sup>9</sup> Commandant of the Marine Corps, *Force Design 2030 Annual Update*, May 2022, p. 17.

<sup>10</sup> Commandant of the Marine Corps, *Statement before Congressional Defense Committees*, March 2022, p. 15.

<sup>11</sup> Commandant of the Marine Corps, *Statement before House Appropriations Committee, Subcommittee on Defense*, April 29, 2021, p. 24–25.

<sup>12</sup> Commandant of the Marine Corps, *Force Design 2030 Annual Update*, May 2022, p. 15.

<sup>13</sup> Commander, Marine Forces Reserve, *Statement before the Senate Appropriations Committee Subcommittee on Defense Concerning The Guard and Reserve*, June 7, 2022, p. 10.

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Historically, the Marine Corps Reserve has leveraged National Guard and Reserve Equipment Appropriation (NGREA) to supplement funding deficiencies, which has also assisted with improving efforts to achieve greater parity between the RC and AC. However, numerous programs are still fielded using a vertical (cascading) rather than horizontal (concurrent) fielding model, affecting the parity of RC to AC equipment like the current fielding plans for the Joint Light Tactical Vehicle (JLTV) and Amphibious Combat Vehicle (ACV).

## II. Marine Corps Reserve Overview

### A. Current Status of the Marine Corps Reserve

#### 1. General Overview

The Marine Corps Reserve is an integral part of the Total Force. It is organized and trained to the same standards as its AC counterparts, facilitating the seamless employment of Reserve Forces to meet CCDR requirements. However, AC to RC equipment parity remains a challenge in key platforms. The Marine Corps Reserve provides critical capabilities to the Total Force, which increases the lethality of the Corps and contributes to the competitive advantage maintained over our adversaries. The Marine Corps Reserve is relevant, ready, and responsive to answer the nation's call and support CCDRs' requirements.

#### Top RC Focus Areas

- Littoral Maneuver Capability
- Major ground equipment modernization (JLTV, etc.)
- Aviation and ground equipment maintenance

The Marine Corps Reserve continues to support CCDR requirements with global deployments despite the continued challenges presented by COVID-19:

In addition to the Marines already activated and deployed, 2021 saw an additional 1,144 Reserve Marines mobilized to support 23 operational requirements across four geographic Combatant Commands. In FY 2022 (as of June), the Marine Corps Reserve had already activated 1,107 Marines in support of Commander United States Northern Command and was slated to support five other Combatant Commands by activating and mobilizing an additional 639 Reserve Marines to support 18 separate formations. These operations significantly increase the RC's interoperability with the AC, Joint Forces, our allies, and coalition partners.<sup>14</sup>

Throughout 2021, the Marine Corps Reserve activated more than 450 Reserve Marines and Sailors to augment and reinforce the Marine Corps Recruit Depots at Parris Island and San Diego. "These Marines ensured the recruits awaiting training maintained proper quarantine protocols, enabling assimilation into training platoons with minimal risk of a COVID-19 outbreak during training."<sup>15</sup> In support of II Marine Expeditionary Force, the Marine Corps Reserve activated 1,100 Marines for Operation Allies Welcome to support the Afghan relocation in Quantico and Fort Pickett, Virginia. Despite the short notice for the request, the requirement was met with volunteers in a timely manner, which speaks volumes to the dedication of our Reserve Marines.<sup>16</sup>

The top procurement priority for the Marine Corps Reserve remains the transition to the JLTV. The AC began receiving the JLTV in Q3FY 2019, but the RC did not receive its first shipment until Q3FY 2021. Because of the delayed JLTV fielding to RC units, the

<sup>14</sup> Commander, Marine Forces Reserve, *Statement before Senate Appropriations Committee Subcommittee on Defense Concerning Guard and Reserve*, June 7, 2022, p. 4.

<sup>15</sup> *Ibid.*, p. 4–5.

<sup>16</sup> *Ibid.*, p. 5.

RC will continue to operate the legacy High Mobility Multipurpose Wheeled Vehicle (HMMWV) to support exercises and operational training. Additionally, in line with the Marine Corps' Force Design 2030 guidance, the Marine Corps Reserve is pursuing development of a littoral maneuver capability. This capability serves the Total Force and acts as a bridging capability in MARFORRES to fill a gap created by the limitations placed on the aging fleet of Amphibious Assault Vehicles (AAV).

Modernization efforts currently underway, including ongoing block upgrades for the F-5N/F adversary aircraft and procurement of meteorological equipment, will increase safety, add capability, and increase overall unit readiness. Currently, the RC has provided 2 aircraft to the maintenance and upgrade cycle, and anticipate more aircraft will be inducted into the upgrade cycle as the new procurement aircraft are delivered. The F/A 18A++ aircraft are transitioning to the updated F/A 18C+ modification with anticipated completion in FY 2023. For ground vehicles, transition to the ACV will begin as the program reaches full-rate production. Lastly, the AC is currently seeking to replace the equipment sets for the Low Altitude Air Defense (LAAD) Battalions and establish an RC LAAD Battery (REIN). The RC LAAD capability is scheduled to come online in FY 2025. The addition of an RC LAAD Battery will further modernize the RC equipment set and expand RC capabilities.

## **2. Status of Equipment**

Marine Forces Reserve (MARFORRES) units maintain and account for the Reserve Component equipment. The unique geographic dispersion of Marine Corps Reserve units, coupled with a limited number of full-time personnel and limited storage capacity, make the proper accountability of equipment and validation of the TA essential to maintaining overall readiness. By continually refining the TA, MARFORRES's goal is to balance the amount of equipment necessary to conduct training with the amount of equipment that can be maintained within personnel, facility, and fiscal constraints. MARFORRES is critically deficient in ICCE and the FY 2023 Unfunded Priority List (UPL) included \$30.6 million to address this deficiency. The slow procurement and fielding of the updated/modernized ICCE requires MARFORRES to maintain legacy equipment, causing the bulk of the ICCE shortfall. Legacy ICCE equipment is increasingly non-deployable; resulting in an increased cost to the RC and AC to support the ICCE requirements within global force management obligations. The sustainment capability has historically been limited because the equipment is not available for procurement with baseline funds via Global Combat Support System–Marine Corps (GCSS-MC).

However, the shortfall recently started to decrease as updated equipment continued to be fielded throughout FY 2022. MARFORRES was able to procure \$2.1 million in ICCE using unobligated funding, with deliveries projected through FY 2023. Apart from legacy equipment, the RC maintains equipment to the same standards as the AC, which facilitates a seamless employment to support CCDRs. The ICCE shortfall can also be addressed by including MARFORRES in the Marine Corps Enterprise Consolidated

Storage Program (CSP). The change to include MARFORRES in the CSP was reviewed and approved by a Headquarters Marine Corps Deputy Commandant for Installations and Logistics (DC I&L) Marine Corps Requirements and Oversight Council (MROC) study. The study showed inclusion in the CSP provides significant sustainment cost savings/avoidance and improved inventory efficiency, access, visibility, and sustainability over the current process. In FY 2023, MARFORRES is conducting a Business Case Analysis (BCA) to gain further insight into the total cost, benefits, and risk associated with converting the existing General Account (an Intermediate Supply location, comparable to the AC CSP locations) warehouse to a CSP location within the Enterprise CSP structure. Key outputs for this BCA include financial analysis of CSP expansion with net cost over time and MARFORRES/Enterprise break-even point, cost reduction/avoidance, readiness gains, and a Plan of Action and Milestones for integration.

Lastly, the majority of the new ICCE fielded cannot be adequately sustained at the unit level within MARFORRES because units lack access to adequate laundry and repair facilities and cannot order sustainment parts or whole item replacements via the standard supply sustainment process because the items are in a “fielding” status. There is approximately a 2-year delay from the completion of fielding to award of the sustainment contract through the Defense Logistics Agency. Without these contracts in place, MARFORRES must contract through MARCORSSYSCOM for replacement items, delaying order processing and shortfall item receipt.

#### **a. Equipment On-hand**

The MARFORRES equipment on hand (EOH) consists of the TA, which is the minimum amount of equipment required to train to Core Mission Essential Tasks (METs) at the Reserve Training Centers. Currently, the functionality to display and track TA is not in an Accountable Property System of Record (APSR). MARFORRES is working with DC I&L, Deputy Commandant for Combat Development & Integration (DC CD&I), Marine Corps Logistics Command (MARCORLOGCOM), and the respective program offices to make the required system changes to add the TA to the Total Force Structure Management System (TFSMS) update. In April 2021, the GCSS-MC Program Office installed a change request, which created an Equipment Density Listing/Training Allowance (EDL/TA) field within the system. This EDL/TA allowance replaces the Table of Equipment (T/E) allowance feed, allowing the unit to override the T/E to account for equipment allowances approved by the chain of command. For MARFORRES, this field enhances the ability to manage equipment allowances and inventory from a single field. The new field also provides Headquarters Marine Corps, MARCORSSYSCOM, and MARCORLOGCOM with accurate allowances to plan for fielding and distributing equipment. The MARFORRES biennial TA review was completed in Q3FY 2022. The Logistics Systems Coordination Office (LSCO) then loaded the approved TA allowances to GCSS-MC. The completion of this task will provide greater transparency to the EOH posture at MARFORRES unit locations. Additionally, by storing the delta between T/E and TA (the equipment that MARFORRES does not need for training or have adequate

resources to store and maintain) at Marine Corps Logistics Bases and other “in store” locations, MARFORRES maintains a high EOH posture for Mission Essential Equipment (MEE).

*Table 1 Consolidated Major Item Inventory and Requirements* reflects the combined projected equipment inventories and requirements of Marine Corps Reserve units for the period FY 2024–FY 2026. These quantities are an aggregate of the EOH and equipment maintained by Marine Corps Logistics Command. Marine Forces Reserve MEE readiness levels are sufficient and capable of supporting all home station training requirements, as well as current operational deployments. Congressional support is essential to our ability to maintain the readiness of multiple legacy equipment platforms that have been critical to supporting ongoing operations.

#### **b. Average Age of Major Items of Equipment**

The equipment listed in *Table 2 Average Age of Equipment* provides the average age of selected major equipment items at the start of FY 2023. The average age of RC equipment is currently consistent with the age of equipment in the AC except for legacy equipment such as the F/A-18 A++ and the Assault Amphibious Vehicle. Maintaining legacy equipment creates significant challenges as equipment approaches the end of its lifecycle and supply parts become less available. These legacy systems are either in upgrade or modification programs that will extend the lifecycle of the equipment or have fielding of replacement equipment planned. For example, the F/A-18A++ is being replaced/upgraded to the F/A-18C+, with completion scheduled for FY 2023.

#### **c. Compatibility of Current Equipment with Active Component**

The RC remains near parity with its AC counterpart due to the Total Force approach to equipment fielding. However, delays in appropriating funds continue to disrupt our ability to program long-term activities and challenges our efforts to improve current and future readiness. To continue to meet operational commitments and maintain a ready force, the Marine Corps requires greater fiscal stability and continued congressional support. A DC I&L MROC study regarding the addition of MARFORRES to the Marine Corps Enterprise CSP determined it was fiscally advantageous for MARFORRES to be included and to move forward with inclusion. MARFORRES is conducting an analysis, including the implementation cost, to develop a detailed implementation. While not yet implemented, this initiative would provide a significant positive impact on the ICCE availability to the Reserve Component and achieve ICCE parity with the AC. Given the nature of the current manufacturing and logistics environments, this change would facilitate providing current ICCE for each RC Marine before departure to support CCDR requirements while reducing the administrative burden on supported and supporting units.

#### **d. Maintenance Challenges**

Several factors continue to affect maintenance efforts and priorities across the RC. These include limited personnel resources to perform preventative maintenance,



identify corrective maintenance, and operate and exercise the equipment sets; make fiscal resourcing decisions; and address increased operational tempo (mobilizations and exercises). RC units are limited to the small full-time support staffs at each Reserve Training Center that are augmented by Reserve Marines during the monthly drill and 2-week annual training period. The AC maintenance personnel, in many cases, do not possess the knowledge and experience necessary for independent duty assignment at Reserve Training Centers. With limited staffing and competing “no fail” priorities (such as funeral honors), additional limitations on the ability to perform maintenance are levied on the Reserve Units. The majority of MARFORRES unit locations (below the battalion level) have Non-Commissioned Officers with little more than one enlistment worth of experience leading the maintenance section. This experience shortfall (no fault of the Marines) results in decreased maintenance readiness and extended maintenance cycles to affect repair.

Personnel and fiscal resourcing decisions exacerbate maintenance challenges. These constraints require maintenance efforts to be focused on corrective maintenance for MEE. This focus constrains routine preventative and corrective maintenance on the remaining equipment, further exacerbating the maintenance challenges within the RC. Additionally, the consistently high cost of Secondary Repairable parts without a corresponding increase to RC appropriation compounds the maintenance challenges annually.

In recent years, the Marine Corps’ demand for unique capabilities has increased, requiring more RC activations of units and ad-hoc formations. This increased employment of RC forces has generated excessive wear on combat equipment. Consequently, maintenance requirements, full funding for the Repairable Issue Point (RIP), and the replenishment of gear have outpaced previous forecasts. The cost increase in repair and replacement parts adversely affects the maintenance readiness of the RC ground equipment on hand. Additionally, the United States Government Accountability Office (GAO) found that the Marine Corps needs to implement its masterwork schedule into the baseline work schedule to facilitate performance assessments against the planned maintenance work.<sup>17</sup> Finally, aviation readiness challenges across the Marine Corps enterprise, caused by a combination of aging aircraft, maintenance backlogs, and unresponsive supply chains, have adversely affected MARFORRES aviation units. The result is a mission capable status of 62.9 percent for 4th Marine Aircraft Wing flight line aircraft; AC aircraft wings maintain 66 percent average readiness.

#### **e. Modernization Programs and Shortfalls**

Marine Corps modernization programs are designed to keep pace with the changing requirements of current and future operations. The RC uses various funding sources

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<sup>17</sup> GAO-20-401, *Army and Marine Corps Need to Improve Efforts to Address Challenges in Measuring Performance and Planning Maintenance Work*.

such as the baseline procurement budget and NGREA to execute these programs and fill equipment shortfalls for both aviation and ground forces.

- **Aviation Modernization:** The RC is included in the Marine Corps Aviation Plan. During the current funded fielding plans and out years planning profile, the RC squadrons will continue to transition and field aircraft across several platforms. The RC has historically used NGREA funding to procure aviation-training simulators (such as the KC-130J fuselage trainer) and facilitate the transition to the aircraft.
- **Combat Equipment Modernization:** The Marine Corps is acquiring major ground equipment modernizations that will provide the RC with the latest generation of warfighting capabilities. These initiatives have been delayed because of force structure changes occurring with Force Design. As Force Design continues through the iterative decision process, updated requirements and new fielding plans will be published to support the updated requirements.

#### **f. Overall Equipment Readiness**

Equipment readiness for RC units remains consistent with AC readiness reporting levels. The RC continues to maintain its TA in a high state of operational readiness. The challenges to Aviation readiness in the RC are similar to the challenges in the AC and are consistent with readiness levels across the Marine Corps enterprise.

### **B. Changes Since the Last NGRER**

Several major changes since last year's NGRER have had a significant impact on the RC achieving interoperability with the AC. The 4th Marine Aircraft Wing was able to purchase two Block upgrade packages for the F-5N with FY 2021 NGREA. The RC also began the procurement process for updated maintenance stands for the MV-22. The updated stands reduce maintenance hours and ease access for maintenance on the MV-22 engine nacelles. Updated meteorological equipment suites and 18 JLTVs were procured in FY 2022 and FY 2023 respectively. Additionally, the GCSS-MC change request to allow for an editable TA field has been implemented. Continued Force Design efforts are adjusting Marine Corps Reserve equipment requirements and priorities to posture the RC to augment, support, and reinforce the AC in a near-peer environment.

### **C. Future Years Program (FY 2024–FY 2026)**

#### **1. FY 2024 Equipment Requirements**

The Marine Corps will continue to pursue current and emerging ground and aviation equipment requirements to modernize the Total Force. During this effort, the RC will strive to maintain equipment parity with its AC counterparts to the maximum extent possible.

### **a. Light Armored Vehicle (LAV)**

Based on the Commandant's Planning Guidance and in line with Force Design initiatives to modernize the force, the entire Family of LAVs will undergo numerous modifications in the coming years to upgrade or replace internal and external communications systems, turret components, and the electrical system. The fielding for these modifications was scheduled to begin in



Q1FY 2022 and is anticipated to reach Final Operational Capability (FOC) in Q4FY 2023. MARFORRES is scheduled to receive the modifications late in the fielding plan.

## **2. Anticipated New Equipment Procurements**

### **a. Joint Light Tactical Vehicle (JLTV)**

The number one procurement priority for the Marine Corps Reserve is the JLTV, a joint Army/Marine Corps program to procure the next generation of light tactical vehicles and companion trailers. The program's objectives are to improve the mobility and payload of the light tactical vehicle fleet while providing increased survivability through modular protection within the weight constraints of the expeditionary force. JLTVs are configured to



support multiple mission packages derived from two base vehicle configurations, the four-door Combat Tactical Vehicle and two-door Combat Support Vehicle. The commonality of components, maintenance procedures, and training among all vehicle configurations minimizes total ownership costs. This program minimizes maintenance costs through increased reliability and provides improved fuel efficiency over the current light tactical vehicle. The vehicle design provides the warfighter with increased protection from scalable armor solutions, while restoring payload capabilities lost due to the armoring of the HMMWV fleet. Full rate production and fielding began in August 2019 with Full Operational Capability occurring in FY 2021. The Marine Corps plans to procure 12,500 JLTVs. The RC began receiving its allocation of 2,628 JLTVs in Q3FY 2021 and to date only has 4 vehicles on hand. There are an additional 8 specialty vehicles for the artillery community scheduled for fielding in FY 2023/FY 2024. However, Force Design decisions have suspended additional fielding of JLTV's for MARFORRES. Modernizing the HMMWV to the JLTV will reduce the maintenance burden the aging fleet of HMMWV currently in operation places on the RC. The RC needs its full T/E to be procured and fielded to support the training and war time requirement for light tactical vehicles. Pending final decision on the Commandant's Planning Guidance (CPG) and Force Design, the final requirement for the RC may be

adjusted. The new RC Low Altitude Air Defense equipment set may introduce more JLTVs to the RC once the final capability is selected and sourced.

### **b. F-5 N/F+ Block Upgrade**

Updating and modernizing the adversary aircraft fleet provides increased flight safety, as well as tactical capability, facilitating effective training for the current 4th generation and increasing the number of 5th generation fighters while maintaining a low operation cost. The upgrades are necessary to ensure an interoperable fleet not only within the Marine Corps, but also with the Navy Reserve. The



FY 2020 budget provided the purchase of 22 F-5s from the Swiss. This purchase directed 11 aircraft to the Marine Corps Reserve, which will be upgraded on delivery. The RC is anticipating receiving (1) F-5N/F-5F in FY 2023, (1) F-5N/F-5F in FY 2024, and (1) F-5F and (3) F-5N in later years. The delivery schedule has been delayed due to the 18–24 month upgrade maintenance cycle. A mixed fleet of aircraft creates a disparity in training, cockpit familiarity, safety, and, in some cases, system operation. Upgrading the existing aircraft in the Marine Corps fleet is necessary for increased safety and equipment parity across the adversary fleet. The additional aircraft will facilitate stationing aircraft on the East Coast as part of a new adversary squadron to support East Coast adversary requirements. This change will provide cost savings over the current structure with all adversary aircraft based on the West Coast. Additionally, the block upgrades will increase aircraft availability by reducing maintenance hours. The safety of flight, communication system, and aircraft configuration upgrades will provide valuable and cost-effective adversary support to the Marine Corps while the transition to 5th generation aircraft continues.

### **c. Ultra Light Tactical Vehicle (ULTV)**

The Ultra Light Tactical Vehicle (ULTV) Family of Vehicles (FoV) enhances infantry and reconnaissance mobility and sustainability during distributed and Heli-Borne Operations. The capability provides infantry, reconnaissance, and logistics elements enhanced mobility and sustainability via a lightweight MV-22 internally transportable vehicle for use in an Anti-



Access/Area Denial (A2AD) environment. The anticipated future operating environments are expected to require lighter weight, high-mobility equipment. The ULTV provides mobility and transportability in environments where current equipment may be unsuitable due to size, weight, and transportability limitations. The USMC enterprise AAO is currently 538 total systems to be fielded between FY 2023 and FY 2027, with 108 planned as allowance for the RC Infantry and Reconnaissance units through FY 2026.

### 3. Anticipated New Equipment Requirements

#### a. Multi Mission Littoral Maneuver Craft

In the Force Design 2030 Annual Update, the Commandant states “Littoral mobility remains a significant gap, a conclusion repeatedly validated across Campaign of Learning activities...Littoral mobility requires further analysis to develop a better understanding of the specific capabilities needed by maneuver elements of the MAGTF, to sustain Stand-in Forces...Sole reliance on armored ground vehicles for reconnaissance is too limiting, especially in complex littoral environments.”<sup>18</sup> Based on Force Design 2030 guidance, MARFORRES has begun to develop a small craft littoral and coastal maneuver capability. This capability will support the Total Force with improved littoral and coastal maneuver, providing MARFORRES with a bridging capability that fills a gap created by the delayed fielding of the ACV to the Reserve Component. This capability will facilitate MARFORRES’s ability to maintain an amphibious assault capability that can evolve to fill multiple littoral and coastal maneuver missions following the ACV fielding. This capability will also provide Commander Marine Forces Reserve and Marine Forces South a complimentary capability with allies and partner nations in the SOUTHCOM area of operations.



#### b. Amphibious Combat Vehicle (ACV)

The Marine Corps established the ACV program as a way to acquire an enhanced capability to transport Marines from ship-to-shore under hostile conditions. The Marine Corps has used the AAV-7A1 series amphibious assault vehicle to move Marines from ship to shore since 1971 and expects to continue to use it until it is replaced by the ACV. As part of a service initiative to minimize the maintenance challenges associated with the age of equipment, a portion of the existing AAV fleet will go through depot level maintenance to extend the vehicles’ service lifecycle to FY 2035. However, no RC vehicles are scheduled to receive these depot level upgrades.



The ACV Programs acquisition approach consists of two increments. Increment 1 will field a personnel carrier (ACV-P) with ship-to-shore capability. Increment 2 will enhance the personnel carrier capabilities over Increment 1 by increasing the number of battalions of lift by procuring more vehicles, and deliver the ACV-C, ACV-R, and ACV-

<sup>18</sup> Commandant of the Marine Corps, *Force Design 2030 Annual Update*, May 2022, p. 8.

30 Mission Role Variants (MRVs). The ACV MRVs are derivatives of the ACV-P base vehicle platform. The ACV-C will serve as a tactical-echelon command post for the regiment or battalion. The ACV-C provides the embarked commander with the platform to command and control the battlefield from under armor. The ACV-R is an armored amphibious wheeled vehicle that provides field maintenance, recovery, and limited repair capabilities to the AA battalion. The ACV-R is organic to the AA company and battalion, as well as the maintenance battalion of the Marine Logistics Group (MLG). The ACV-30 carries a medium caliber weapon system capable of supporting dismounted maneuver while still embarking Marines. Each MRV will have its own initial operating capability (IOC). IOC for the ACV-P occurred Q1FY 2021. IOC for the ACV-C is planned to occur in Q4FY 2024. IOC for the ACV-30 is planned to occur in Q4FY 2025. IOC for the ACV-R is planned to occur in Q4FY 2026. All MARFORRES ACV deliveries are currently scheduled for FY 2027. MARFORRES is scheduled to receive: 26 ACV-P, 12 ACV-30, 2 ACV-C, and 2 ACV-R variants. ACV FOC quantities will be determined pending final decision on Force Design.

#### **c. F-5N/F MAXDRFM (MAX Digital Radio Frequency Memory) Jamming Pod**

The MAXDRFM Pod is a significant upgrade over the current ALQ-237 Filthy Badger jammer. This upgrade will improve the adversary electronic attack capability to support Red Air training provided before fleet deployments. MAXDRFM provides modern electronic jamming techniques and an updated operating system with the capacity for future upgrades. The upgradability of this system is invaluable because of the continued expansion and fielding of 5th generation fighter aircraft in the fleet. Additionally, this upgrade will bring the USMCR's F-5s to a common configuration with the USNR aircraft. This system is specific to the F-5 airframe and is sought by the RC because the AC does not operate the F-5.

#### **4. Anticipated Transfers from AC to RC**

MARFORRES is slated to provide one High Mobility Artillery Rocket System (HIMARS) Unit Deployment Program (UDP) rotation in FY 2023. MARFORRES is providing equipment for the UDP rotation and will be transferring RC equipment to an AC DoD Activity Address Code to support RC personnel.

#### **5. Anticipated Withdrawals from RC Inventory**

The RC continues the transition to the F/A-18C+ aircraft. Additional F/A-18A++ aircraft will be removed from the inventory as part of the platform "sundown" plan. The transition is expected to be completed in FY 2023. The HMMWV phase out and divestment will begin as JLTVs are fielded to MARFORRES. Additionally, the RC provided M777 howitzers and Command Launch Units (CLU) to Ukraine as part of a Presidential Drawdown directive and expects the fielding of replacement M777s to be complete in FY 2023, with completion of CLU replacement fielding in FY 2027. The delay in replacing the CLU is occurring because the replacement items and updated equipment are still being manufactured.

## 6. Equipment Shortages and Modernization Shortfalls at the End of FY 2026

The RC wartime requirements are addressed in *Table 1 Consolidated Major Item Inventory and Requirements*, which delineates the major item shortfalls that are anticipated to exist at the end of FY 2026. *Table 8 Significant Major Item Shortages*, presents the RC's highest priority unfunded equipment and modernization shortfalls affecting Reserve unit training allowances.

### D. Summary

As stated by the Commandant of the Marine Corps in the Commander's Intent, "The principal challenge facing the Marine Corps today lies in continuing to fulfill our role as the naval expeditionary force-in-readiness, while simultaneously modernizing the force in accordance with the NDS—and doing both within the fiscal resources provided."<sup>19</sup> Horizontal (concurrent) fielding efforts and RC participation in the fielding conferences are having a positive impact on the status of RC equipment, but the challenge of true horizontal (or concurrent) fielding continues to affect the RC to AC equipment parity. Key examples for this challenge are the JLTV, ACV, and ICCE fielding. Without horizontal fielding across the Total Force and RC equipment fielding prioritization on plane with AC prioritization, full compatibility between AC and RC equipment is not possible.

Equipment accountability and readiness within the RC TA continues to be a challenge. The implementation of the GCSS-MC change request, including an editable TA field with the ongoing TA review by MARFORRES will provide increased equipment visibility and transparency while improving inventory management and overall unit readiness. This action will also help accomplish the CPG task to invest in modernization by divesting of legacy equipment. Additionally, the addition of MARFORRES to the Marine Corps Enterprise CSP for ICCE support provides increased visibility of enterprise inventory, improved fielding efficiency, and significant cost savings over the current management process. Inconsistent budget periodicity and frequent operation under Continuing Resolutions over the past several years continue to disrupt our ability to program long-term activities and challenge our efforts to improve current and future readiness. Fiscal and personnel resourcing decisions generate a maintenance program focused on MEE and constrains routine preventative and corrective maintenance for non-MEE, which further exasperates maintenance challenges within the RC.

A focus on divesting costly legacy equipment and reinvesting in equipment and technology modernization for the future fight will help the Marine Corps Reserve remain a force trained and equipped to augment and reinforce the AC as part of the Total Force Marine Corps. Additionally, the ongoing improvements are in keeping with the Commandants Guidance and Force Design 2030. Pending anticipated CPG task and Force Design decisions, additional fidelity and clarity on the equipment challenges in the RC will be available. Within the evolving operational environment, the Marine Corps

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<sup>19</sup> Commandant of the Marine Corps, *The 38<sup>th</sup> Commandant's Intent*, p. 1.

Reserve is, and will continue to adapt and triumph over the challenges presented, while continuing to serve as the face of the Marine Corps in our local communities. As part of the Total Force, we remain focused on Force Design, readiness, and manpower to maintain and enhance the Marine Corps' ability to deter pacing threats as prescribed by the NDS.<sup>20</sup>

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<sup>20</sup> Commander, Marine Forces Reserve, *Statement before Senate Appropriations Committee Subcommittee on Defense Concerning Guard and Reserve*, June 7, 2022, p. 34.



**Consolidated Major Item Inventory and Requirements**

*NOTE: This table provides a comprehensive list of selected major equipment items. It provides the projected inventory quantity on-hand (QTY O/H) at the beginning/end of the selected fiscal year (FY). It also provides the quantity required (QTY REQ) to meet the full wartime requirements of the Reserve Component. In accordance with Title 10, the QTY REQ number provides the recommendation as to the quantity and type of equipment that should be in the inventory of each Reserve Component. Unit cost estimates are provided by the Military Departments.*

Nomenclature	Equip No.	Unit Cost	Begin FY 2024 QTY O/H	Begin FY 2025 QTY O/H	Begin FY 2026 QTY O/H	End FY 2026 QTY O/H	End FY 2026 QTY REQ
<b>Aircraft</b>							
AIRCRAFT, FIGHTER/ATTACK, F/A-18C+	F/A-18C+	\$38,500,000	12	12	12	12	12
AIRCRAFT, FIGHTER, F-5F	F-5F	\$19,100,000	1	1	1	1	1
AIRCRAFT, FIGHTER, F-5N	F-5N	\$5,000,000	11	11	11	11	11
AIRCRAFT, REFUELING/CARGO, KC-130J	KC-130J	\$92,152,561	8	8	8	8	10
AIRCRAFT, UTILITY/CARGO, UC-12W	UC-12F	\$15,500,000	2	2	2	2	2
AIRCRAFT, UTILITY/CARGO, UC-12W	UC-12W	\$15,500,000	2	2	2	2	2
AIRCRAFT, UTILITY/CARGO, UC-35D	UC-35D	\$33,500,000	3	3	3	3	3
HELICOPTER, ATTACK, AH-1Z	AH-1Z	\$30,450,000	21	21	21	21	25
HELICOPTER, UTILITY, UH-1Y	UH-1Y	\$25,240,000	21	21	21	21	22
HELICOPTER, CARGO, CH-53E	CH-53E	\$56,900,000	6	6	6	6	8
TILT-ROTOR, CARGO, MV-22B	MV-22B	\$104,027,000	24	24	24	24	24
RQ-21A BLACKJACK SYSTEM	RQ-21A	\$12,789,000	2	2	2	2	2
FLIGHT TRAINING DEVICE, KC-130J WEAPONS SYSTEM TRAINER (WST)	KC-130J FTD (WST)	\$33,267,089	1	1	1	1	1
FUSELAGE TRAINER, KC-130J	KC-130J FUT	\$17,078,182	1	1	1	1	1
COCKPIT PROCEDURES TRAINER, KC-130J	KC-130J CPT	\$4,937,258	1	1	1	1	1
OBSERVER TRAINING AID, KC-130J	KC-130J OTA	\$3,278,150	1	1	1	1	1
AIRCREW PROCEDURES TRAINER, AH-1W	AH-1W APT	\$4,500,000	1	1	1	1	1
FLIGHT TRAINING DEVICE, UH-1Y	UH-1Y FTD	\$16,400,000	2	2	2	2	2
FLIGHT TRAINING DEVICE, CH-53E	CH-53E FTD	\$10,611,000	1	1	1	1	1
CONTAINERIZED FLIGHT TRAINING DEVICE, MV-22B	MV-22B CFTD	\$9,239,000	2	2	2	2	2
<b>Communications &amp; Electronics</b>							
TRSS DAY/NIGHT IMAGER, V2 (IMAGER 2)	A0003	\$49,383	102	102	102	102	102

**Consolidated Major Item Inventory and Requirements**

Nomenclature	Equip No.	Unit Cost	Begin FY 2024 QTY O/H	Begin FY 2025 QTY O/H	Begin FY 2026 QTY O/H	End FY 2026 QTY O/H	End FY 2026 QTY REQ
THEATER BATTLE MANAGEMENT CORE SYSTEMS	A0013	\$342,866	2	2	2	2	2
AIR COMMAND & CONTROL SYSTEM (AC2S)	A0031	\$1,634,368	7	7	7	7	7
COMMUNICATIONS SYSTEM	A0032	\$1,503,497	11	11	11	11	11
METEOROLOGICAL MOBILE FACILITY (REPLACEMENT) NEXT GENERATION V1 (METMF(R) NEXGEN V1)	A0036	\$4,318,576	1	1	1	1	1
HIGH FREQUENCY VEHICLE SYSTEM	A0067	\$53,234	152	207	203	203	203
VIDEO SCOUT REMOTE VIDEO EXPLOITATION TERMINAL (RVET)	A0091	\$87,400	76	0	0	0	0
LCMR MOBILE	A0108	\$581,000	0	0	0	0	5
HUB MODEM PACKAGE (HMP)	A0136	\$107,297	1	1	1	1	3
RADIO SET	A0139	\$47,828	87	87	87	87	123
RADIO SET	A0153	\$224,839	34	34	37	37	35
NOTM-AIRBORNE NETWORK AND COMMUNICATIONS	A0157	\$1,200,000	0	0	0	0	2
METEOROLOGICAL MOBILE FACILITY (REPLACEMENT) NEXT GENERATION V2 (METMF(R) NEXGEN V2)	A0166	\$1,922,657	0	1	1	1	1
POWER MODULE	A0172	\$5,955	9	9	9	9	27
COMM SECURITY MODULE (CSM)	A0173	\$44,550	59	59	59	59	95
LAN SERVICE MODULE (LSM)	A0174	\$92,330	87	87	87	87	46
COMPUTER DIGITAL DATA TRANSFER	A0175	\$2,615	70	70	70	70	116
LAN EXTENSION MODULE	A0176	\$27,930	222	222	222	222	377
APPLICATION SERVER MODULE(ASM)	A0177	\$14,980	61	61	61	61	95
DATA PROCESSING MODULE	A0183	\$16,375	36	36	41	41	71
CIHEP COMMERCIAL SATCOM SET (CSCS)	A0188	\$21,032	22	22	22	22	64
VEHICLE ACCESSORY MODULE	A0193	\$2,164	18	18	19	19	18
COMMON GEOINT WORKSTATION-R (CGW-R)	A0221	\$28,491	32	32	32	32	32
VERY SMALL APERTURE TERMINAL-SMALL (VSAT-S)	A0234	\$80,000	27	27	27	27	32
VERY SMALL APERTURE TERMINAL-MEDIUM (VSAT-M)	A0241	\$90,000	7	7	7	7	11
VERY SMALL APERTURE TERMINAL-LARGE (VSAT-L)	A0242	\$295,000	11	11	11	11	26
MASTER REFERENCE TERMINAL (MRT)	A0244	\$105,000	13	13	13	13	13

**Consolidated Major Item Inventory and Requirements**

Nomenclature	Equip No.	Unit Cost	Begin FY 2024 QTY O/H	Begin FY 2025 QTY O/H	Begin FY 2026 QTY O/H	End FY 2026 QTY O/H	End FY 2026 QTY REQ
MARINE CORPS WIDEBAND SATELLITE COMMUNICATIONS TERMINAL EXPEDITIONARY (MCWS-X)	A0245	\$250,000	20	20	20	20	27
HF VEHICLE RADIO SYSTEM	A0266	\$50,755	71	71	71	71	144
ENTERPRISE SWITCH MODULE (ESM)	A0269	\$159,400	9	9	9	9	15
WAN SERVICE MODULE (WSM) (V)1	A0276	\$75,470	0	0	0	0	9
WIRELESS POINT TO POINT LINK (WPPL) T	A0278	\$100,000	15	15	15	15	60
INFORMATION ASSURANCE MODULE (IAM) DDS-M	A0304	\$50,000	21	21	21	21	25
WAN SERVICES MODULE (WSM) V2	A0312	\$41,850	177	177	177	177	75
SCA MULTIBAND NETWORKING RADIO	A0336	\$28,908	592	592	592	592	725
SCA MULTIBAND NETWORKING VEHICULAR RADIO SYSTEM - SINGLE MOUNT (RF-300M-V150)	A0352	\$17,900	98	98	98	98	312
SMG-L	A0358	\$72,527	0	0	0	0	6
VERY SMALL APERTURE TERMINAL-EXPEDITIONARY (VSAT-E)	A0364	\$236,575	0	0	0	0	6
SENSITIVE COMPARTMENTALIZED INFORMATION KIT (SCIK)	A0366	\$191,000	0	0	0	0	1
NOTM POINT OF PRESENCE (POP) VEHICLE KIT, HMMWV/MRAP	A0387	\$1,700,000	0	0	0	0	23
NOTM STAFF VEHICLE KIT, HMMWV/MRAP	A0388	\$184,000	0	0	0	0	46
NOTM TEP MODEM KIT	A0395	\$150,000	0	0	0	0	7
AN/MRC-145B (RADIO SET)	A0403	\$109,111	136	136	136	136	178
TACTICAL COP WORKSTATION	A0932	\$1,348	0	0	181	181	151
HAND-HELD, PROGRAMMER MONITOR (HHPM)	A1221	\$15,000	16	16	16	16	36
RADAR SET, FIREFINDER	A1440	\$7,500,000	3	3	3	3	4
RADIO SET, MULTIBAND (MARITIME)	A2044	\$7,431	125	125	242	242	381
TERMINAL, RADIO, TROPOSCATTER, DIGITAL	A2179	\$1,500,000	17	17	17	17	28
TRSS RADIO REPEATER SET	A2300	\$22,687	64	64	64	64	96
ADVANCED FIELD ARTY TACTICAL DATA SYSTEM	A2555	\$2,844	238	238	238	238	151
TRACKING NETWORK, COMPOSITE (CTN)	A2600	\$3,698,025	1	1	1	1	2
SECURE MOBILE ANTI-JAM RELIABLE TACTICAL-TERMINAL (SMART-T)	A3232	\$825,000	6	6	6	6	9
SENSOR, GROUND, UNATTENDED	A3255	\$867,264	6	6	6	6	6
INTERROGATOR COMPUTER	A8018	\$1,499	4	4	4	4	11
TRANSPONDER COMPUTER	A8019	\$1,254	4	4	4	4	9

**Consolidated Major Item Inventory and Requirements**

Nomenclature	Equip No.	Unit Cost	Begin FY 2024 QTY O/H	Begin FY 2025 QTY O/H	Begin FY 2026 QTY O/H	End FY 2026 QTY O/H	End FY 2026 QTY REQ
<b>Engineer</b>							
AIR CONDITIONER, 18K, 60HZ, R-410A	B0003	\$10,021	19	19	19	19	6
ENVIRONMENTAL CONTROL UNIT, 5-TON R-407C, 5T, 60K R-407C	B0008	\$20,251	60	60	60	60	58
ENVIRONMENTAL CONTROL UNIT, 3-TON R-407C	B0014	\$15,092	149	149	149	149	272
DISTRIBUTION SYSTEM, MOBILE ELECT PWR, 5KW (INDOOR)	B0027	\$4,500	176	176	176	176	216
DISTRIBUTION SYSTEM, MOBILE ELECT PWR, 5KW (OUTDOOR)	B0028	\$7,500	297	297	297	297	298
DISTRIBUTION SYSTEM, MOBILE ELECT PWR, 15KW	B0029	\$8,800	126	126	126	126	192
DISTRIBUTION SYSTEM, MOBILE ELECT PWR, 30KW	B0030	\$16,100	102	102	102	102	143
DISTRIBUTION SYSTEM, MOBILE ELECT PWR, 100KW	B0031	\$28,500	62	62	62	62	74
DISTRIBUTION SYSTEM, MOBILE ELECT PWR, 300KW	B0032	\$22,100	10	10	10	10	20
ALL TERRAIN CRANE (ATC) MAC-50	B0038	\$2,201,049	5	5	5	5	20
AIRFIELD DAMAGE REPAIR (ADR) KIT	B0039	\$1,167,936	3	3	3	3	8
GENERATOR SET, 15 KW, 60 HZ, AMMPS, SKID MOUNTED	B0043	\$20,949	71	71	71	71	160
MEDIUM CRAWLER TRACTOR (JOHN DEER)	B0060	\$399,188	27	27	27	27	34
TRACTOR, RUBBER TIRE, ARTICULATED STEERING, MP	B0063	\$204,139	76	76	76	76	67
LIGHT WEIGHT WATER PURIFICATION SYSTEM	B0071	\$213,507	14	14	14	14	14
AIR CONDITIONER, 60HZ, 9K 1-PH, R-410A	B0074	\$9,510	17	17	17	17	15
GENERATOR SET, 5KW, 60HZ, AMMPS, SKID MOUNTED	B0077	\$19,878	75	75	75	75	91
GRADER, ROAD, MOTORIZED	B0078	\$384,274	14	14	14	14	14
LOW METALLIC SIGNATURE MINE DETECTOR	B0102	\$28,218	137	137	137	137	162
LIGHT WEIGHT CARBON ROD DETECTOR	B0105	\$3,886	239	239	239	239	414
EXCAVATOR, HYDRAULIC (HYEX)	B0119	\$242,636	5	5	5	5	12
MEPDIS-R ECU POWER DISTRIBUTION BOX (PDB)	B0143	\$12,632	7	7	7	7	35
CONTAINER HANDLER, RT, KALMAR	B0392	\$1,505,369	4	4	4	4	8
TACTICAL AIRFIELD FUEL DISPENSING SYSTEM (TAFDS) (FIRESTONE)	B0675	\$1,300,000	2	2	2	2	9

**Consolidated Major Item Inventory and Requirements**

Nomenclature	Equip No.	Unit Cost	Begin FY 2024 QTY O/H	Begin FY 2025 QTY O/H	Begin FY 2026 QTY O/H	End FY 2026 QTY O/H	End FY 2026 QTY REQ
AMPHIBOUS ASSAULT FUEL SYSTEM (AAFS)	B0685	\$3,600,000	0	0	0	0	9
GENERATOR SET, 3KW, 60HZ, SKID-MTD	B0730	\$9,922	80	80	80	80	191
GENERATOR SET, 10 KW, 60 HZ, AMMPS, SKID MTD.	B0891	\$19,912	99	99	99	99	209
GENERATOR SET, SKID MTD, 10KW/400HZ, TQG	B0921	\$15,304	7	7	7	7	5
GENERATOR SET, 30 KW, 60 HZ, AMMPS,SKID MTD.	B0953	\$29,000	121	121	121	121	287
GENERATOR SET, 60 KW, 60 HZ, AMMPS, SKID-MTD.	B1021	\$31,000	92	92	92	92	211
REFUELING SYSTEM, EXPEDIENT, HELO	B1135	\$112,049	4	4	4	4	9
PUMP MODULE, FUEL (SIXCON)	B1580	\$23,350	57	57	57	57	119
ROLLER, COMPACTOR, VIBRATORY, SELF-PROPELLED	B1785	\$218,738	5	5	5	5	8
SCRAPER-TRACTOR, WHEELED	B1922	\$767,007	8	8	8	8	20
STORAGE TANK MODULE, FUEL (SIXCON)	B2085	\$26,000	117	117	117	117	399
STORAGE TANK MODULE, WATER (SIXCON)	B2086	\$46,000	72	72	72	72	295
SWEEPER, ROTARY, VEHICLE MOUNTING	B2127	\$356,308	0	0	0	0	6
LOADER, BACKHOE (BHL)	B2483	\$160,846	15	15	15	15	22
EXTENDABLE BOOM FORKLIFT - MODERNIZED (EBFL-M)	B2561	\$136,855	42	42	42	42	58
FORKLIFT, RT, LT CAPABILITY (LRTF)	B2566	\$109,772	61	61	61	61	62
PURIFICATION SYSTEM, WATER, TACTICAL (TWPS)	B2605	\$52,397,890	6	6	6	0	0
20K TANK ASSEMBLY, WATER, FABRIC, COLLAPSIBLE	B2632	\$19,070	13	13	13	13	14
<b>General Supply</b>							
EXPEDITIONARY FIELD KITCHEN	C0034	\$419,830	10	10	10	10	20
EOD GENERAL PURPOSE (GP) DRSKO SET	C0042	\$838,668	0	0	0	0	3
MAGTF CBRN DISMOUNTED RECONNAISSANCE SET, KIT, OR OUTFIT (DRSKO)	C0069	\$1,630,000	2	2	2	2	2
ESCALATION OF FORCE-MISSION MODULES (EOF-MM)	C0104	\$422,707	8	8	8	8	9
RAIDING CRAFT, CMBT, RUBBER, INFLATABLE (CRRC)	C5901	\$32,751	39	39	39	39	46
TANDEM OFFSET RESUPPLY DELIVERY SYSTEM(TORDS)	C6375	\$20,000	10	10	10	10	10

**Consolidated Major Item Inventory and Requirements**

Nomenclature	Equip No.	Unit Cost	Begin FY 2024 QTY O/H	Begin FY 2025 QTY O/H	Begin FY 2026 QTY O/H	End FY 2026 QTY O/H	End FY 2026 QTY REQ
AMAL 631, SHOCK SURGICAL TRIAGE EQUIPMENT	C8624	\$429,651	3	3	3	3	10
AMAL 645, RESUS SURGERY SYS, FORWARD (FRSS)	C8745	\$851,493	4	4	4	4	10
<b>Motor Transport</b>							
EQUIPMENT TRANSPORTER, SEMI-TRLR, LOWBED, 50T	D0002	\$105,308	2	2	2	2	3
TRUCK, ARMORED, CARGO 7 TON, W/O WINCH REDUCIBLE	D0003	\$1,038,258	126	126	126	126	427
TRUCK,ARMORED,XLWB W/O WINCH, REDUCIBLE	D0005	\$967,505	1	1	1	1	37
TRUCK,ARMORED,DUMP 7-TON W/O WINCH REDUCIBLE	D0007	\$909,255	8	8	8	8	45
TRUCK, RTAA, TRACTOR, 7 TON, W/O WINCH	D0009	\$553,981	19	19	19	19	20
TRUCK, ARMORED, TRACTOR, 7 TON, W/O WINCH, REDUCIBLE	D0013	\$991,148	5	5	5	5	44
TRUCK, ARMORED, WRECKER, 7 TON, W/ WINCH, NON-REDUCIBLE	D0015	\$941,695	44	44	44	44	51
TRUCK, UTILITY: EXPANDED CAPACITY, ENHANCED, FULLY ARMORED (2-DOOR)	D0033	\$177,000	218	218	218	218	0
TRAILER, PALLETIZED LOADING SYSTEM	D0035	\$96,063	51	51	51	51	90
P-19R AIRFIELD RESCUE AND FIRE FIGHTING VEHICLE	D0041	\$1,030,850	6	6	6	6	18
GENERAL PURPOSE JOINT LIGHT TACTICAL VEHICLE (JLTV)	D0045	\$305,404	0	0	0	0	234
HVY GUNS CARRIER JLTV	D0046	\$306,323	0	0	0	0	611
CLOSE COMBAT WEAPONS CARRIER JLTV	D0047	\$327,548	4	4	4	4	64
UTILITY JLTV	D0048	\$290,801	0	0	0	0	814
LVSr, ARMORED CARGO VARIANT	D0052	\$1,403,789	5	5	5	5	44
LVSr, ARMORED TRACTOR VARIANT	D0053	\$1,275,336	2	2	2	2	7
LVSr, ARMORED WRECKER VARIANT	D0054	\$1,622,517	4	4	4	4	4
ARMORED SEMI-TRLR, REFUELER, 5,000 GAL	D0055	\$327,518	0	0	0	0	13
TRUCK, RTAA, CARGO, 7 TON, W/O WINCH	D0198	\$449,613	582	582	582	582	432
FLATRACK REFUELING CAPABILITY (FRC)	D0211	\$224,966	21	21	21	21	54
SEMI-TRLR, REFUELER, 5,000 GAL	D0215	\$302,018	13	13	13	13	51
SEMI-TRLR, LOWBED, 40T	D0235	\$102,094	41	41	41	41	60
TRLR, CARGO, RESUPPLY F/HIMARS	D0861	\$91,922	12	12	12	12	36
TRLR, TANK, WATER, 400 GAL, 1 1/2T, 2-WHL	D0880	\$20,954	155	155	155	155	212

## Consolidated Major Item Inventory and Requirements

Nomenclature	Equip No.	Unit Cost	Begin FY 2024 QTY O/H	Begin FY 2025 QTY O/H	Begin FY 2026 QTY O/H	End FY 2026 QTY O/H	End FY 2026 QTY REQ
TRUCK CARGO 22.5 TON, 10X10, (LVSR)	D0886	\$1,160,477	95	95	95	95	146
TRUCK, TRACTOR, 10X10 (LVSR)	D0887	\$1,045,775	39	39	39	39	56
TRK, AMBUL, 4-LTR, ARMD, 2 1/4T, HMMWV	D1001	\$107,323	43	43	43	43	18
TRK, AMBUL, 2-LTR, SOFT TOP, 2 1/4T, HMMWV	D1002	\$61,521	21	21	21	21	0
TRUCK, RTAA, XLWB CARGO, 7 TON, W/O WINCH	D1062	\$447,185	82	82	82	82	142
HIMARS, ARMORED RE-SUPPLY VEHICLE, NON REDUCIBLE	D1063	\$1,336,254	12	12	12	12	36
TRUCK, RTAA, DUMP, 7 TON, W/O WINCH	D1073	\$475,839	31	31	31	31	29
TRUCK, WRECKER, 10X10 (LVSR)	D1214	\$1,622,517	13	13	13	13	20
<b>Ordnance &amp; Weapons</b>							
SCOUT SNIPER DAY SCOPE (SSDS)	E0013	\$2,670	281	281	281	281	255
SCOUT-SNIPER MID-RANGE NIGHT SIGHT	E0020	\$8,795	337	337	337	337	361
LONG RANGE SNIPER RIFLE	E0040	\$6,500	45	45	45	45	48
PORTABLE LIGHTWEIGHT DESIGNATOR RANGEFINDER (PLDR)	E0042	\$79,400	57	57	57	57	99
SABER SYSTEM	E0055	\$970,000	64	64	64	64	66
MODELED METEOROLOGICAL INFORMATION MANAGER (MMIM)	E0059	\$35,000	16	16	16	16	10
EOD AN/PLT-4 TRANSMITTER (CITADEL II)	E0090	\$24,699	2	2	2	2	6
M27 INFANTRY AUTOMATIC RIFLE (IAR)	E0100	\$2,815	3429	3429	3429	3429	3,514
SEMI-AUTOMATIC SNIPER SYSTEM (SASS)	E0103	\$8,500	132	132	132	132	136
MACHINEGUN .50 CAL QCB	E0123	\$12,886	325	325	325	325	402
LIGHT ARMORED VEHICLE - ELECTRONIC WARFARE (LAV-EW)	E0133	\$6,485,011	3	3	3	3	3
RADIAC SET AN/PDX-2	E0153	\$191,186	1	1	1	1	3
SIGHT, WEAPON THERMAL	E0156	\$7,840	328	328	328	328	192
AMPHIBIOUS COMBAT VEHICLE PERSONNEL VARIANT (ACV-P)	E0157	\$4,300,537					0
CIRCLE, AIMING	E0180	\$3,913	89	89	89	89	86
JAVELIN	E0207	\$133,063	35	35	35	35	64
HOWITZER, LTWT, TOWED, 155MM	E0671	\$2,500,000	36	36	36	36	36
ASSAULT AMPHIBIOUS VEHICLE, COMMAND	E0796	\$3,719,875	8	6	6	6	2
ASSAULT AMPHIBIOUS VEHICLE, PERSONNEL	E0846	\$3,229,583	78	78	78	78	40
ASSAULT AMPHIBIOUS VEHICLE, RECOVERY	E0856	\$4,054,968	4	4	4	4	2

**Consolidated Major Item Inventory and Requirements**

Nomenclature	Equip No.	Unit Cost	Begin FY 2024 QTY O/H	Begin FY 2025 QTY O/H	Begin FY 2026 QTY O/H	End FY 2026 QTY O/H	End FY 2026 QTY REQ
LAUNCHER, ROCKET, ASSAULT, 83MM	E0915	\$31,650	153	153	153	153	189
LAV, ANTI-TANK	E0942	\$4,573,684	24	24	24	24	24
LAV, COMMAND & CONTROL (BN)	E0946	\$3,833,464	11	11	11	11	18
LAV, LIGHT ASSAULT, 25MM	E0947	\$3,869,504	88	88	88	88	88
LAV, LOGISTICS	E0948	\$2,233,836	28	28	28	28	30
LAV, MORTAR	E0949	\$2,733,737	11	11	11	11	12
LAV, MAINT/RECOVERY	E0950	\$2,183,920	8	8	8	8	9
MACHINE GUN, CAL .50, BROWNING, HB FLEXIBLE	E0980	\$16,575	172	172	172	172	0
MACHINE GUN, MEDIUM, 7.62MM, GROUND VERSION	E0989	\$8,590	1123	1123	1123	1123	1445
HEAVY MACHINE GUN, 40MM	E0994	\$15,320	366	366	366	366	504
MORTAR, LW COMPANY, 60MM, M224A1	E1065	\$64,652	75	75	75	75	72
MORTAR, MEDIUM, 81MM, EXTENDED RANGE	E1095	\$47,043	79	79	79	79	76
NEUTRALIZATION DEVICE, ORDNANCE, REMOTE	E1385	\$259,279	1	1	1	1	3
RIFLE, SNIPER, 7.62MM, M40A6	E1460	\$7,503	65	65	65	65	56
RIFLE, SCOPED, SPECIAL APPLICATION, .50 CAL	E1475	\$12,078	64	64	64	64	63
ROCKET SYSTEM, ARTY, HIGH MOB (HIMARS)	E1500	\$10,500,000	13	13	13	13	18
RECEIVER, INFRARED (STINGER)	E1837	\$24,143	2	2	0	0	0
SIGHT, WEAPON, THERMAL, MEDIUM (MTWS)	E1975	\$11,300	1053	1053	1053	1053	1253
SIGHT, WEAPON, THERMAL, HVY (HTWS)	E1976	\$11,999	823	823	823	823	906

Note: The above table reflects estimated on-hand and Reserve-In-Stores quantities against the full wartime requirement. USMC equipping strategy is that the RC maintains on-hand a Training Allowance only. The Training Allowance is the portion of the wartime requirement necessary to conduct home station training. USMC operating concepts rely on global sourcing and pre-positioned assets for combat. When activated, the USMC plans on RC units falling in on either pre-positioned equipment or assets already in theater from previous rotations.



# USMCR

## Average Age of Equipment

Table 2

*NOTE: This table provides the average age of selected major equipment items. The average age provides a projected average age of the fleet at the start of FY 2023.*

Nomenclature	Equip No.	Average Age	Remarks
<b>Aircraft</b>			
Aircraft, Fighter/Attack, F/A-18C+	F/A-18C+	32	
Aircraft, Refueling/Cargo, KC-130J	KC-130J	11	
Aircraft, Utility/Cargo, UC-12W	UC-12W	11	
Aircraft, Utility/Cargo, UC-35C	UC-35C	21	
Aircraft, Utility/Cargo, UC-35D	UC-35D	13	
Aircraft, Fighter, F-5F	F-5F	41	
Aircraft, Fighter, F-5N	F-5N	41	
Tilt-rotor, Cargo, MV-22B	MV-22B	14	
Helicopter, Attack, AH-1Z	AH-1Z	5	
Helicopter, Attack, AH-1W	AH-1W	29	
Helicopter, Utility, UH-1Y	UH-1Y	6	
Helicopter, Cargo, CH-53E	CH-53E	23	
RQ-21A Blackjack System	RQ-21A	4	
<b>Communications/Electronics</b>			
Adaptable Tactical Lightweight Antenna System (ATLAS)	A0063	1	New Table 1 item. Added to Table 2 per instructions
High Frequency Vehicle System	A0067	14	
Radio Set	A0153	13	
Very Small Aperture Terminal - Small (VSAT-S)	A0234	5	
Very Small Aperture Terminal - Medium (VSAT-M)	A0241	5	
Very Small Aperture Terminal - Large (VSAT-L)	A0242	5	
VSAT Master Reference Terminal (MRT)	A0244	5	
Marine Corps Wideband SATCOM-Expeditionary (MCWS-X)	A0245	1	New Table 1 item. Added to Table 2 per instructions
Combat Operations Center (COC) V(4)	A0255	5	
Combat Operations Center (COC) V(2)	A0271	5	
<b>Motor Transport</b>			
Truck, Armored, Cargo 7-ton, W/O Winch Reducible	D0003	14	
Truck, Armored, XLWB, W/O Winch Reducible	D0005	14	
Truck, Armored, Dump 7-ton W/O Winch Reducible	D0007	11	
Truck, RTAA, Tractor, 7-ton, W/O Winch	D0009	9	
Truck, Armored, Tractor, 7-ton, W/O Winch, Reducible	D0013	9	
Truck, Armored, Wrecker, 7-ton, W/Winch Non-Reducible	D0015	9	
Truck, Utility, Expanded Capacity, Enhanced, M1152	D0022	12	

## USMCR Average Age of Equipment

Table 2

Nomenclature	Equip No.	Average Age	Remarks
Truck, Utility, Expanded Capacity, Armament Carrier	D0030	12	
Truck, Utility, Expanded Capacity, C2/GP Vehicle	D0031	12	
Truck, Utility, ECV, TOW Carrier, Armored	D0032	12	
Truck, Utility, Expanded Capacity, Fully-armored (2-door)	D0033	12	
Truck, Utility, Ground Mobility Vehicle, Armored (4-door)	D0034	12	
Truck, RTAA, Cargo, 7-ton, W/O Winch	D0198	14	
Semitrailer, Refueler, 5,000 gal	D0215	18	
Semitrailer, Lowbed, 40-ton	D0235	18	
Trailer, Cargo, Resupply for HIMARS	D0861	14	
Truck Cargo 22.5-ton, 10X10, (LVSR)	D0886	9	
Truck, Tractor, 10X10 (LVSR)	D0887	7	
Truck, Ambulance, 4-Litter, Armored, 2 1/4-ton, HMMWV	D1001	17	
Truck, Ambulance, 2-Litter, Soft Top, 2 1/4-ton, HMMWV	D1002	17	
Truck, RTAA, XLWB Cargo, 7-ton, W/O Winch	D1062	14	
HIMARS, Armored Resupply Vehicle, Non-Reducible	D1063	11	
Truck, RTAA, Dump, 7-ton, W/O Winch	D1073	11	
Truck, Wrecker, 10X10 (LVSR)	D1214	8	
<b>Ordnance &amp; Weapons</b>			
Saber System	E0055	8	
Javelin	E0207	8	
Equipment Set, Night Vision	E0330	29	PMM140. Obsolete. TAMCN in DP status.
Howitzer, Lightweight, Towed, 155mm	E0671	10	
Assault Amphibious Vehicle (AAV), Command	E0796	45	Disposal plan is published. TAMCN migration to DP status expected in FY23.
Assault Amphibious Vehicle, Personnel	E0846	45	Disposal plan is published. TAMCN migration to DP status expected in FY23.
Assault Amphibious Vehicle, Recovery	E0856	45	Disposal plan is published. TAMCN migration to DP status expected in FY23.
Launcher, Rocket, Assault, 83mm	E0915	36	
Launcher, Tubular, F/GM TOW Weapon System	E0935	32	PMM140. Obsolete. TAMCN in DP status.
Light Armored Vehicle (LAV), Anti-Tank	E0942	29	
LAV, Command & Control (Battalion)	E0946	28	
LAV, Light Assault, 25mm	E0947	31	
LAV, Logistics	E0948	28	

**USMCR**  
**Average Age of Equipment**

Table 2

Nomenclature	Equip No.	Average Age	Remarks
LAV, Mortar	E0949	31	
LAV, Maintenance/Recovery	E0950	36	
Recovery Vehicle, Full-tracked, Heavy, W/Equip	E1378	11	
Rocket System, Artillery, High Mobility (HIMARS)	E1500	8	
Tank, Combat, Full-tracked, 120mm Gun	E1888	21	

**Service Procurement Program - Reserve (P-1R)**

*NOTE: This table provides a comparison of the dollar value of the FY 2021 request, the FY 2021 enacted amount; and, the actual amount spent on procurement for specific categories of RC equipment. All values are costs in millions. Deliveries of procured equipment normally take one to two years before they arrive in the inventory; e.g., items procured in FY 2023 are expected to arrive in RC inventories in FY 2024 or FY 2025.*

<b>Nomenclature</b>	<b>Request</b>	<b>Enacted</b>	<b>Actual</b>
Other Support (Non-Tel)	43	43	43
Guided Missiles	4	4	4
Tactical Vehicles	1	1	1
Intell/Comm Equipment (Non-Tel)	1	1	0
Engineer and Other Equipment	2	2	0
General Property	2	2	0
Other Support	1	0	0
<b>Total</b>	<b>55</b>	<b>54</b>	<b>49</b>

## National Guard and Reserve Equipment Account (NGREA) Procurements

*NOTE: This table identifies the dollar value of planned equipment procurements with the National Guard and Reserve Account (NGREA). These funds are available for a three-year period from the year of appropriation. Deliveries of procured equipment normally take one to two years from the date of procurement before they arrive in the inventory.*

Marine Corps Reserve Defense Appropriations Act NGREA	FY 2021	FY 2022	FY 2023 <sup>1</sup>
F-5 N Block Upgrades	9,300,000	8,000,000	
Joint Light Tactical Vehicle (Heavy Gun Truck)		5,369,040	
Meteorological Mobile Facility {Replacement} Next Gen (V)2 IBV	1,900,000		
Naval Integrated Tactical Environmental System (NITES-Next) INMARSAT Module	10,800		
Naval Integrated Tactical Environmental System (NITES IV)	180,000		
PROCESSING Module			
Naval Integrated Tactical Environmental System (NITES IV) SENSOR Module	400,400		
UC-35D Engines	3,800,000		
IMV-22 Nacelle Maintenance Stands	493,826	578,826	
Truck Mounted Cleaning and De-Icing Stand	429,450		
Squad Binocular Night Vision Goggle (SBNVG) AN/PVS-31A/B	611,134		
Image Intensifier (I2) Assembly Kit, (SBNVG (Squad Binocular Night Vision Goggle)) AN/PVS-31D*		1,941,000	
Enhanced Clip On Thermal Imager {ECOTI} AN/PAS-29B	372,000		
EOS M290 3D Printing System		686,000	
Wire Electrical Discharge Machining (EDM) System		150,000	
HAAS UMC-1000 5-Axis Mill with Laser DED AM Print Head		272,477	
Cyber Lab Workstations		95,000	
MCBOSS Platform License		300,000	
Blue SUAS - Skydio X2D EO/IR System		32,058	
Blue SUAS - Skydio X2D Spare Airframe		16,634	
Blue SUAS - Autonomy Foundation		5,861	
Blue SUAS - Vantage Vesper System		26,734	
Enhanced Capability / Distributed Tactical Communications System (DCTS)		26,370	
<b>Total MCR NGREA</b>	<b>17,497,610</b>	<b>17,500,000</b>	<b>18,000,000</b>

1. FY 2023 spending data was not available at time of publication.

**Projected Equipment Transfers and Withdrawals**

*NOTE: This table portrays the planned equipment transfers (Active to Reserve), withdrawals (-), and decommissioning (-). Transferred equipment is commonly called "cascaded equipment," or equipment that is provided to the RC once the AC receives more modern equipment. Although this table highlights a three-year period, many Services will not know exact quantities of transfers or withdrawals until year of execution, due to the uncertainty of the procurement/delivery cycle of new equipment.*

Nomenclature	Equip No.	FY 2024 Qty	FY 2025 Qty	FY 2026 Qty	Remarks
Aircraft, Refueling/Cargo, KC-130J	KC-130J	+2			FY24 1 gain, 1 delivery
Aircraft, Fighter Adversary, F-5N	F-5N	+3			Marine Corps Reserve anticipates a total of (16) F-5N aircraft in FY 2024
Aircraft, Fighter Adversary, F-5F	F-5F	+1			Marine Corps Reserve anticipates a total of (4) F-5F aircraft in FY 2024
Assault Amphibious Vehicle (AAV), Command	AAV-C				AAV sundown plan(s) published in FY 21. Divestment is targeted to begin in FY 24 and complete by the end of FY 25.
Assault Amphibious Vehicle, Personnel	AAV-P				AAV sundown plan(s) published in FY 21. Divestment is targeted to begin in FY 24 and complete by the end of FY 25.
Assault Amphibious Vehicle, Recovery	AAV-R				AAV sundown plan(s) published in FY 21. Divestment is targeted to begin in FY 24 and complete by the end of FY 26.
Lightweight, Command Launch Unit	LTWT CLU				(27) LTWT CLU will be transferred to MARFORRES to backfill CLUs transferred ISO PDA to Ukraine in FY 27

### FY 2020 Planned vs Actual Procurements and Transfers

*NOTE: This table compares planned Service procurements and transfers to the RC in FY 2020 with actual procurements and transfers. FY 2020 is selected as these are the most recent funds to expire. Because the procurement cycle is normally one to two years from funding to delivery, this table identifies only deliveries through the end of 2022. Procurement and NGREA columns reflect cost values in dollars. In FY 2020, \$1.3 billion of NGREA was reprogrammed by DoD.*

Nomenclature	Equip. No.	FY 2020 Transfers (# of items)		FY 2020 Procurements (\$s)		FY 2020 NGREA (\$s)	
		Plan	Actual	Plan	Actual	Plan	Actual
<b>FY 2020 Planned Transfers &amp; Withdrawals</b>							
Aircraft, Refueling/Cargo, KC-130J	KC-130J	4	4				
Aircraft, Refueling/Cargo, KC-130T	KC-130T	-5	-4				
Deployable End Office Suite - Transition Switch Module (TSM)	A0125	-32	-30				
<b>FY 2020 Service Procurement Programs – RC (P-1R) Equipment</b>							
<b>Weapons and Combat Vehicles</b>							
AAV7A1 PIP				329,000	329,000		
Modification Kits				2,013,000	2,013,000		
155mm Lightweight Towed Howitzer				6,000	6,000		
<b>Guided Missiles and Equipment</b>							
Anti-Armor Missile-Javelin				182,000	0		
Anti-Armor Missile-TOW				192,000	192,000		
Guided MLRS Rocket (GMLRS)				3,128,000	3,145,000		
<b>Support Vehicles</b>							
Motor Transport Modifications				415,000	415,000		
Family of Tactical Trailers				683,000	683,000		
<b>Engineer and Other Equipment</b>							
Environmental Control Equip Assort				118,000	118,000		
Power Equipment Assorted				1,868,000	0		
Amphibious Support Equipment				204,000	204,000		
Family of Construction Equipment				2,335,000	0		
Items Less Than \$5 Million				371,000	0		
<b>Communications and Electronics Equipment</b>							
Items Under \$5 Million (Comm & Elec)				49,000	0		
Command Post Systems				2,198,000	2,198,000		
Comm Switching & Control Systems				4,499,000	4,499,000		
Ground/Air Task Oriented Radar (G/ATOR)				121,847,000	125,910,000		
Fire Support System				994,000	696,000		
<b>Total</b>				<b>141,431,000</b>	<b>140,408,000</b>		

USMCR

Table 6

**FY 2020 Planned vs Actual Procurements and Transfers**

Nomenclature	Equip. No.	FY 2020 Transfers (# of items)		FY 2020 Procurements (\$s)		FY 2020 NGREA (\$s)	
		Plan	Actual	Plan	Actual	Plan	Actual
<b>FY 2020 National Guard and Reserve Equipment Account (NGREA) Equipment</b>							
<b>Total</b>						<b>0</b>	<b>0</b>



**Major Item Of Equipment Substitution List**

*NOTE: This table identifies equipment authorized by the Service to be used as a substitute for a primary item of equipment. The table also identifies whether or not the item is deployable in wartime. This data meets the Title 10 requirement to identify substitutes that are not the most desired equipment item.*

Required Item Nomenclature	Reqd Item Equip No.	Substitute Item Nomenclature	Substitute Item Equip No.	FY 2023 Qty	Deployable?	
					Yes	No

**Service Does Not Use Substitution to Satisfy Major Item Equipment Requirements.**

**Significant Major Item Shortages**

*NOTE: This table provides a top ten RC prioritized (PR) shortage list for major equipment items required for wartime missions but which are currently not funded. It lists the total quantity required, the total unfunded requirement, the individual item cost, and the cost of the unfunded portion. This data is consistent with other unfunded equipment data submitted by the Service.*

PR	Nomenclature	T/E QTY	Req Qty	U/P	Total	Remarks/Justification
1	Multi-Mission Littoral Maneuver Craft	6	6	\$ 1,771,167	\$ 10,627,000	The FY 2022 NDAA provided guidance to the USMC to improve and develop a littoral maneuver capability. In line with the NDAA guidance and in alignment with USMC Force Design 2030, MARFORRES has registered a requirement for a multi mission littoral maneuver craft. The equipment will provide a capability that will facilitate the Total Force with improved littoral and coastal maneuver, as well as function as a bridging capability to fill the capability gap created by the delayed fielding of the ACV to the Reserve Component.
2	Joint Light Tactical Vehicle (JLTV)	2,196	2,196	\$ 339,000	\$744,444,000	The JLTV is a joint Army/Marine Corps program to procure the next generation of light tactical vehicles and companion trailers. The vehicle design provides the warfighter with increased protection through the use of scalable armor solutions, while restoring payload capabilities lost due to the armoring of the high mobility multipurpose wheeled vehicle (HMMWV) fleet. Full rate production and fielding started in FY 2019. The Marine Corps plans to procure 12,500 JLTVs. The RC is slated to receive a total of 2,196 vehicles starting in FY 2030 with FOC slated for FY 2036.
3	Individual Combat Clothing and Equipment (ICCE)	Varies	Varies	Varies	\$ 30,600,000	ICCE comprises the full suite of protective equipment each Marine relies on for kinetic threat protection, to carry their combat loads and protection from environmental threats. As a complete system of equipment ICCE enables Marines to function in austere environments. ICCE provides critical life saving protection in combat environments, constant upgrade and new fielding of ICCE creates sustainment challenges as replacement items cannot be requisitioned while the item is in fielding. Additionally, the individual cost of each item continues to increase without a subsequent increase in baseline sustainment funding to support the requirement through its lifecycle. Additionally, Combatant Commanders require specific ICCE based on the threats presented within the AO.

**Significant Major Item Shortages**

PR	Nomenclature	T/E QTY	Req Qty	U/P	Total	Remarks/Justification
4	F-5 N/F block upgrades	12	10	Varies	\$ 38,500,000	The F-5 is the DoN's only tactical jet without basic safety features and is flown in some of the most dynamic roles. The current cockpit instrumentation not only lacks basic safety features but also has extreme obsolescence and sustainment challenges which will increasingly degrade F-5 readiness. Upgrading the old/obsolete instrumentation and adding required safety features will avoid degraded readiness and mitigate mishaps. Total cost for block upgrade is: \$35M, with additional Anti-Skid upgrades totaling: \$3.5M.
5	Amphibious Combat Vehicle (ACV)	Varies	Varies	Varies	\$180,622,554	The ACV provides a significant capability increase of the aging Amphibious Assault Vehicle (AAV). As part of the service initiative to minimize maintenance challenges with the current AAV, the Force is transitioning to the ACV with full transition for MARFORRES scheduled for FY 2027. Currently fielding to MARFORRES is pending additional Force Design decisions and continuation of fielding to the AC. The delay in funded fielding quantities to the RC creates an interoperability challenge for the RC units/personnel that are currently employing the AAV at their Home Training Centers.
6	Binocular Night Vision Device	5,870	5,536	\$ 6,470	\$ 35,817,920	The Squad Binocular Night Vision Goggle is a lightweight night vision system comprising an image-intensifier binocular and enhanced clip-on thermal imager. The SBNVG provides capabilities that increase the survivability and lethality of the Marines. A helmet-mounted system, the SBNVG provides increased depth perception, improved clarity and a thermal-imaging capability to detect targets in extreme darkness or through battlefield obscurants. Marines can use the goggles to operate vehicles at night, move through dark buildings or tunnels, and engage targets after sunset.

**Significant Major Item Shortages**

PR	Nomenclature	T/E QTY	Req Qty	U/P	Total	Remarks/Justification
7	Ground/Air Task Oriented Radar (G/ATOR) AN/TPS-80	2	1	\$ 38,962,000	\$ 38,962,000	AN/TPS-80 is a three-dimensional, expeditionary, short/medium range multi-role radar capable of detecting low-observable, low-radar cross-section targets such as rockets, artillery, mortars, cruise missiles, and unmanned aerial systems. This system is ideal for distributed operations to augment sea based air-defense sensors, and C2 capabilities. It provides the Naval and Joint Forces with expeditionary radar and cruise missile detection capability that extends landward battlespace coverage. The USMCR currently has an allowance for 2 systems with one funded, and one unfunded.
8	F-5 Simulator startup costs	varies	varies	varies	\$ 1,100,000	The F-5 simulator was included in the FY 2020 budget line item purchasing 22 Swiss F-5 aircraft. The simulator line item did not include the cost of establishing the location for its placement. This is requested in order to perform site preparations and provide for required facilities and public works efforts to place and operate the simulator with necessary power, security, and infrastructure support for its use.
9	Joint Light Tactical Vehicle (JLTV), Intermediate Field Maintenance Kit	101	72	\$ 25,524	\$ 1,837,728	Required to support fielding of JLTV
10	Joint Light Tactical Vehicle (JLTV) Trailer	64	64	\$ 57,000	\$ 3,648,000	Required to support fielding of JLTV

## Chapter 4 United States Navy Reserve (USNR)

### I. Navy Overview

#### A. Navy Planning Guidance

The reemergence of long-term strategic competition, the evolving character of that competition, and accelerating advancements in technology are spurring a period of transformation in the strategic environment, requiring the Navy to adapt its integrated naval force design and operating concepts. The Navy must be ready to respond by delivering a combat-credible force of personnel, platforms, and operational capability necessary to fight and win in combat, secure vital sea lanes, stand by our allies, and protect the American people.<sup>1</sup>

The requirements of long-term strategic competition dictate that the United States Navy Reserve (USNR) will pivot to a unit-centric model capable of rapidly deploying trained and ready forces, while ensuring force structure, resourcing, manning, and mobilization processes are aligned with the National Defense Strategy (NDS).<sup>2</sup> The ability of the USNR to be a Global Force Management (GFM) deployer and pre-deployment enabler depends on readiness. The USNR must deliberately focus actions on readiness and infuse a sense of urgency in how it operates. This requires improved readiness systems and processes that better enable Reserve Sailors to contribute to the fight.<sup>3</sup> Near-peer competitor combat and contested logistics challenges in 2022 have highlighted the need for a resilient logistics enterprise, making USNR equipment prioritization of expeditionary and contested logistics capabilities a critical resourcing initiative in the near-term.

#### B. Navy Equipping Policy

DoD Instruction 1225.06, “Equipping the Reserve Forces” states that all units will be equipped to accomplish assigned missions and shall have a responsive, balanced, and sustainable equipment and distribution program to effectively meet mission requirements. Units scheduled for deployment should be prioritized for equipment distribution. Equipment priorities for Reserve Component (RC) units will be determined with the same methodology as Active Component (AC) units with the same mobilization mission in accordance with Chief of Naval Operations (CNO) established guidance.

The Department of the Navy (DoN) funds RC equipment through the defense procurement appropriation (consisting of the Aircraft Procurement, Navy [APN] and

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<sup>1</sup> Chief of Naval Operations Statement before the Senate Armed Services Committee, March 5, 2020.

<sup>2</sup> Chief of Navy Reserve Statement before the Senate Subcommittee on Defense, Committee on Appropriations, May 18, 2021.

<sup>3</sup> *Navy Reserve Fighting Instructions*, May 2022.

Other Procurement, Navy [OPN] accounts); Congressionally-added funding (CONG ADD); and NGREA funding.

### C. Plan to Fill RC Equipment Mobilization Requirements

Reserve equipment allocation is planned and coordinated with the AC via the planning, programming, budgeting, and execution (PPBE) process. The USNR maintains equipment as training or mobilization assets and, in many instances, will utilize AC equipment already in theater during deployments. In certain warfare areas, such as aviation and expeditionary, the USNR maintains its own equipment for operational employment. Equipment requirements and shortfalls are identified during the requirements process, which the USNR then prioritizes and funds based on resources allocated.

### D. Initiatives Affecting RC Equipment

In the *Navy Reserve Fighting Instructions*, the Chief of Navy Reserve states:

“We are focused unambiguously on warfighting readiness. It is my number one and only priority—period. We will generate the combat power and critical strategic depth the Navy requires to prevail in conflict in an era of great power competition. That’s our job, and why we exist. All else is secondary.”<sup>4</sup>

Four lines of effort are outlined to deliver this priority: Design, Train, Mobilize, and Develop the Force. These lines of effort are driving the transformation of the Navy Reserve to ensure that Reserve Sailors are ready to activate and serve on “Day One” throughout the spectrum of conflict at a resource-informed cost. The Navy has established ongoing initiatives to recapitalize the fleet or modernize delivery of decisive combat capabilities. Examples of key USNR programs that require further investment are listed below:

- **K/C-130T Hercules:** The K/C-130T is a unique Fleet logistics enabler capable of airlifting oversized cargo that the AC is unable to transport organically to support Distributed Maritime Operations (DMO), including weapons, redeployment of CMV-22 Osprey detachments, and rapid distribution of critical replacement parts for warfare platforms (F-35 engines, submarine masts, etc.). Although the contested logistics mission of Reserve K/C-130T aircraft is essential, the aircraft age, associated parts availability, and maintenance issues present significant challenges that negatively affect aircraft readiness and Fleet support capability. Navy Intra-Theater Airlift (NITA) capacity is critical to the successful DMO required for a fight in the Pacific.

The only long-term solution to increase readiness and close the intra-theater airlift capacity gap is to recapitalize the existing KC-130T aircraft with the common DoD user platform and more supportable and capable KC-130J. **This recapitalization effort is the Chief of Navy Reserve’s top equipment priority and requires**

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<sup>4</sup> ALNAVRESFOR 022/22:NAVY RESERVE FIGHTING INSTRUCTIONS 2022.

**significant funding to accomplish.** In the interim, to mitigate existing challenges with the K/C-130T fleet and maintain global support operations, Commander, Naval Air Force Reserve (CNAFR) has undertaken several modernization initiatives, including avionics and power plant upgrades.

- **F-5N/F Tiger II:** USNR F-5N/F squadrons provide dedicated professional adversary support to the Fleet. These aircraft provide 60 percent of USN's professional adversary support sorties, primarily to Fleet Replacement squadrons and Fleet squadrons going through Advanced Readiness Program syllabi and Air Wing training. VFC-204 divested its last F/A-18C in August 2022 and began transition into F-5N/F. The squadron is expected to finish transition to the F-5N/F by the end of Q2FY 2023.

Continuing the modernization of the F-5N/F fleet is imperative for safety and training relevance. For several years, the F-5N/F has been slowly undergoing a necessary block upgrade, modernizing cockpits and implementing a digital architecture. Block upgraded aircraft are safer to operate and, with additional updates, provide better threat representation and higher fidelity training to Fleet customers. Additional funding will be required to complete this effort.

- **F-16C Fighting Falcon:** In 2023, VFC-13 will complete transition from the F-5N to the F-16C Fighting Falcon. The aircraft are set to receive a large number of modifications, increasing the capabilities of the 4th generation fighter that will make them the U.S. Navy's most capable adversary platform for years to come. These aircraft will be used to support the Navy's most advanced air-to-air training events, including TOPGUN, Advanced Readiness Program syllabi, and Air Wing Fallon. Additional funding will be required to ensure that these aircraft continue to provide the Fleet with threat representative capabilities like RedNet Phase II and Infrared Search and Tracking (IRST) systems.
- **MH-60R Seahawk:** HSM-60 is the Navy Reserve's only Helicopter Maritime Strike (HSM) squadron, providing strategic depth and surge capacity to HSMWINGLANT. HSM-60 regularly embarks combat-ready detachments on East Coast CRUDES ships. HSM-60's helicopters receive regular modernization upgrades in hardware and software. Investing in Digital Magnetic Anomaly Detection (DMAD) kits will provide increased lethality in the Anti-Submarine Warfare (ASW) mission set, providing a non-acoustic passive sensor capable of localizing and tracking submarines in deep and shallow water. The kits are transferable, allowing the squadron to outfit any of their aircraft with enhanced passive submarine detection, a highly-valued and impactful mission set on detachments supporting U.S. Navy surface combatants.
- **P-8A Poseidon:** In 2023 and 2024, VP-62 and VP-69 will transition from the P-3C Orion to the P-8A Poseidon. The P-8A is the only airborne, full-spectrum, broad-area, cue-to-kill ASW platform. Additionally, the P-8A provides armed Anti-Surface Warfare (ASuW) and networked Intelligence, Surveillance and Reconnaissance (ISR) capability. With the transition to the P-8A, VP-62 and VP-69 will continue providing continuous deployed presence, deterring adversaries and providing a robust maritime common operating picture to ensure the maritime commons remain

open and safe for navigation and that both homeland and allies are defended against military aggression from the sea. Additional funding will ensure procurement of one additional P-8A to fully recapitalize the Navy Reserve's Maritime Patrol and Reconnaissance Aircraft, meeting inventory requirement and modernization efforts for ASW Signals Intelligence (SIGINT), MINOTAUR enhanced track management capabilities, Intelligence Broadcast System (IBS), High Frequency Internet Protocol (HF-IP), Wide Band SATCOM, and Enhanced Multi-static Active Coherent (MAC-E) and doubling the distance for current wide-area search.

- **Maritime Expeditionary Security Force (MESF):** The MESF is the only force provider for port security and harbor defense across DoD. With the current 34-foot Patrol Boat (34PB) operating past its service life, the Navy began to procure the 40-foot Patrol Boat (40PB) in 2017 as the fleet replacement. The fielding plan is on track to achieve the target program objective of 120 40PBs. To date, 50 boats are on contract, 38 are planned, and 32 remain to be procured. This fielding plan requires the pay back of six 40PBs that were redirected to Ukraine as part of Presidential Drawdown Authority that provided military assistance under the Foreign Assistance Act. In FY 2014, USNR MESF assumed Continental United States (CONUS) high-value unit escort missions from the United States Coast Guard. The RC MESF continues to support this mission while forward-deployed. The CONUS missions encompass five locations on both coasts. Additional critical MESF equipment requirements include procuring Patrol Boat prime mover trucks and mobile SATCOM equipment.
- **Navy Expeditionary Logistics Support Group (NAVELSG):** The NAVELSG is tasked with providing Expeditionary Ordnance (EXORD) reload operations at sea or ashore in austere, expeditionary non-permissive environments where Navy Munitions Command (NMC) units do not have the capacity or capability. Rearming Vertical Launch System platforms will be accomplished via the Expeditionary Reload Teams (ERT) within the Expeditionary Reload Company (ERC). NAVELSG is establishing ERCs within each reserve Naval Cargo Handling Battalion (NCHB). Reloading surface combatants in non-permissive environments provides Combatant Commanders agility through the spectrum of conflict. Equipment requirements to enhance existing capabilities and bolster them for new, ordnance-specific tasks include additional Civil Engineer Support Equipment (CESE), Material Handling Equipment (MHE), Weight Handling Equipment (WHE), and Ordnance Handling Equipment (OHE).
- **Naval Construction Force (NCF):** The NCF is tasked to support Naval Component Commanders, Marine Corps Commanders, Combatant Commanders, and the Joint Task Force with expeditionary construction and engineering service capabilities to support Battle Damage Repair (BDR) of naval airfields and ports; construction of advance naval bases and theater infrastructure such as roads, naval airfields, and ports; and contingency base construction repair and support. The NCF is bolstering existing capabilities in Expeditionary Rapid Airfield Damage Repair (Ex-RADR) and Expeditionary Port Damage Repair and Opening (Ex-PDRO) by testing and acquiring more agile, mobile, and scalable equipment and by implementing revised Tactics, Techniques, and Procedures to enable the Joint Force.



## **E. Plan to Achieve Full Compatibility and Interoperability between AC and RC**

To compete and win in long-term strategic competition requires depth of assets. This depth can only be built through AC/RC compatibility and interoperability. To ensure effective and efficient execution, it is critical that the Navy and Navy Reserve work in concert to achieve and maintain synergy within the Total Force. Along with various upgrade and recapitalization efforts, the following are several recent NGREA procurements helping the RC to keep pace:

- 40ft Patrol Boats
- F-5 upgrades (Avionics, Antiskid, Threat Representation)
- Vehicles and MHE supporting NAVLELSG Expeditionary Reload Companies
- F-16 Avionics upgrades.

Without a continued focus on interoperability, the USNR will fall behind the AC and struggle to deliver against the demands of long-term strategic competition.

## II. Navy Reserve Overview

### A. Current Status of the Navy Reserve

#### 1. General Overview

An integral part of the United States Navy, the RC is comprised of 96,012 citizen Sailors, including 57,700 Selected Reservists (47,693 Drilling and 10,007 Training and Administration of Reserve) and 38,312 Individual Ready Reserve members. These Sailors come from every state and territory. Historically comprising less than 2 percent of the Navy's total annual budget, USNR Sailors have mobilized over 95,000 times to every theater of operation since 2001.

#### Top Navy Reserve Focus Areas

- Recapitalize aging C/KC-130T fleet with modern KC-130J aircraft
- Invest in Expeditionary Logistics Vertical Launch System Reload to support Distributed Maritime Operations
- Ensure long-term Adversary capability to provide the fleet with relevant, necessary tactics training

Aligned with guidance from the National Military Strategy and the CNO's *Design for Maintaining Maritime Superiority 2.0* and *Navigation Plan 2022*, the USNR is rebalancing to meet the dynamic challenges of today and the threats of tomorrow. We are building a more lethal and combat-credible force, focused on capabilities, as an essential element of naval power in an era of long-term strategic competition.<sup>5</sup>

The USNR provides crucial capabilities for urgent missions and operational support. Recent examples include:

- In February 2022, HSM-60 embarked a two-plane detachment aboard USS FORREST SHERMAN (DDG 98) five months earlier than their scheduled deployment to support an urgent EUCOM Request For Forces (RFF) in response to the Russian invasion of Ukraine. The detachment returned home in April 2022 and deployed again on FORREST SHERMAN in June 2022 to support a Standing NATO Maritime Group (SNMG) deployment in the 6th Fleet AOR.
- In June 2022, VAQ-209 mobilized and deployed one month earlier than their scheduled GFM deployment. Expeditionary EA-18G GFM deployments were shifted globally to meet urgent EUCOM requirements. VAQ-209 and VAQ-129 Squadron Augment Units surged seamlessly to sustain critical presence requirements in the INDOPACOM theater.
- From Lemoore, CA, to Key West, FL, Navy Reserve Adversary squadrons continue to provide the majority of the Navy's professional airborne adversary support. Four Reserve squadrons support Fleet Replacement Squadron air-to-air training, Fleet squadron unit level air-to-air-training, and advanced graduate level training for Strike

<sup>5</sup> Chief of Navy Reserve Statement, Hearing before the Senate Appropriations Committee Subcommittee on Defense, April 10, 2019.

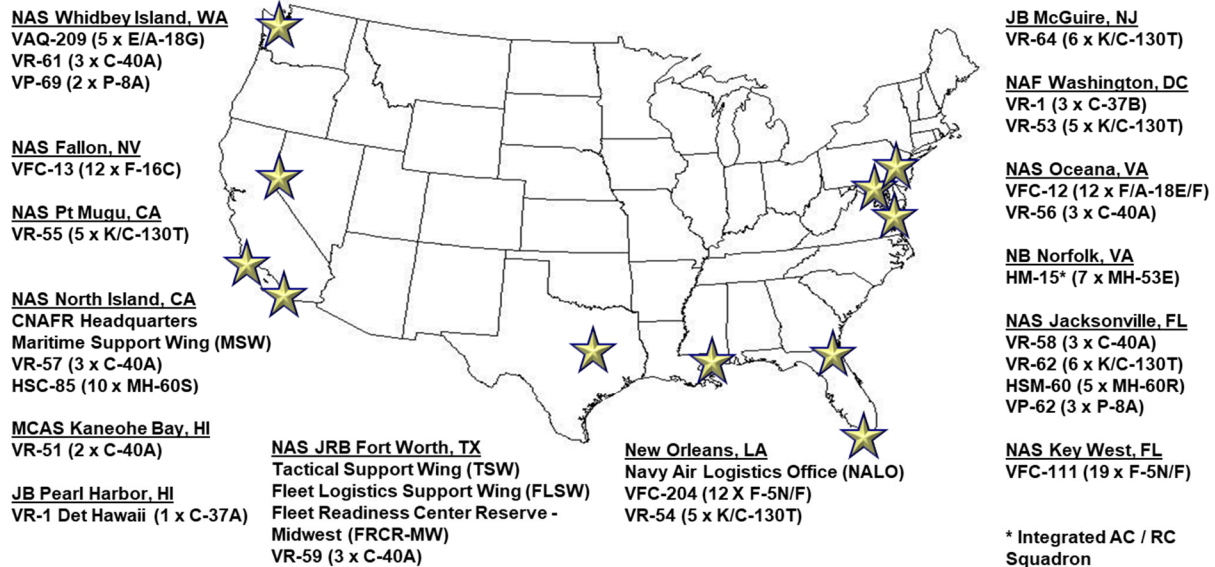
Fighter Advanced Readiness Program (SFARP), Air Wings, TOPGUN, and Carrier Strike Groups.

- In response to Russia’s invasion of Ukraine, 208 Navy Reserve Sailors manned Maritime Operations Centers and the National Joint Operations and Intelligence Center (NJOIC) while supporting Naval Forces Europe–Naval Forces Africa (NAVEUR-NAVAF).
- World events highlighted the importance of rapid-response and flexible Navy intra-theater and inter-theater logistics airlift. Fleet Logistics Support Wing (FLSW) C-40A and K/C-130T aircraft proved their ability to meet time-critical logistics demands across the globe.
  - FLSW C-40A and NAFW C-37 aircraft conducted around-the-clock water sample movements and personnel movements to and from Honolulu, HI, to March Air Reserve Base, CA, to support water testing and treatment efforts for the Hawaii Red Hill Water Crisis.
  - From the onset of the Russian invasion of Ukraine to the present time, Navy C-40A and K/C-130T aircraft and detachment crews performed numerous logistics missions, moving equipment and personnel from Naval Air Station (NAS) Sigonella, Italy, to Poland and Germany to support NATO and the multinational response.
  - As ejection seat aircraft across the Navy became non-mission capable due to Cartridge Actuated Device (CAD) discrepancies, C-40A aircraft from across FLSW and a C-37 from VR-1 flew 143.0 flight hours of CAD transportation to restore mission capable status of F/A-18, E/A-18G, F-5, and T-45 aircraft from multiple carrier air wings, adversary squadrons, and Chief of Naval Air Training (CNATRA), ensuring naval aviation remained ready to “fight tonight.”

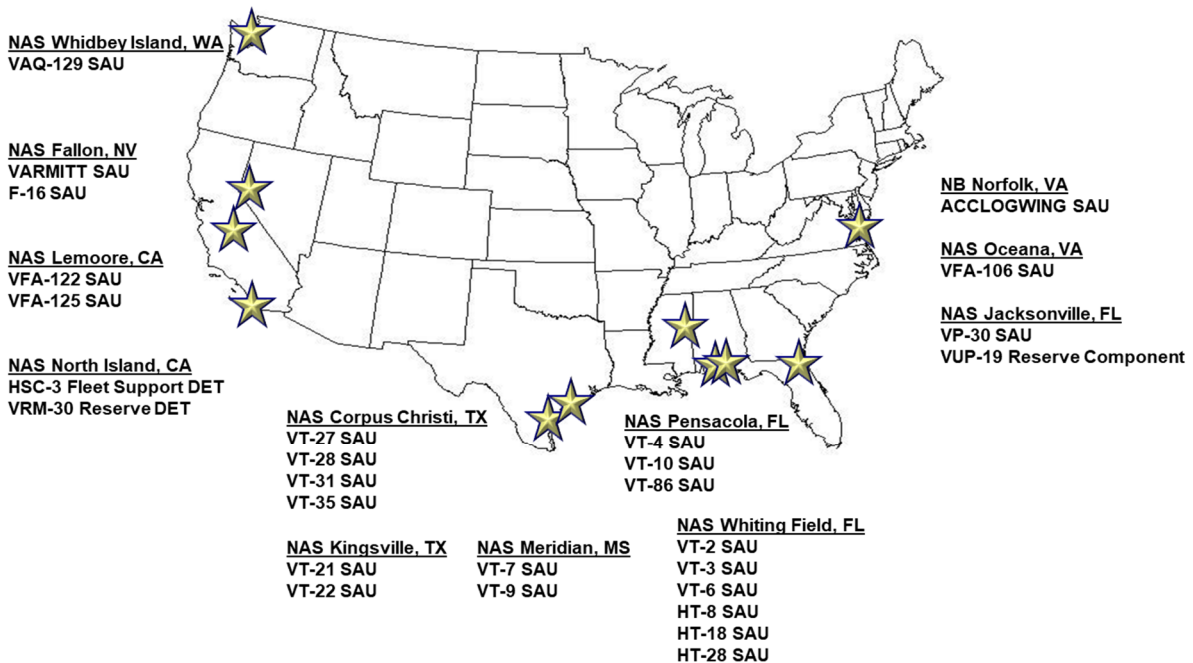
#### **a. Naval Air Force Reserve**

The Naval Air Force Reserve provides critical GFM assets and personnel the Navy needs to prepare for and defeat current and future threats. It comprises 7,600 personnel and 150 aircraft assigned to three Air Wings, two Joint Reserve Bases, and one Naval Air Facility. Fleet Logistics Support Wing (FLSW) and Tactical Support Wing (TSW) are based at Naval Air Station–Joint Reserve Base Fort Worth, TX, and the Maritime Support Wing (MSW) is headquartered at Naval Air Station North Island, CA. Naval Air Forces Reserve Joint Reserve Bases are in Fort Worth, TX, and New Orleans, LA, and Naval Air Facility Washington is co-located with Andrews Air Force Base, MD. The Navy Reserve also operates 23 Reserve Squadrons and 28 Squadron Augment Units that either deploy regularly or provide critical pre-deployment support to the Fleet.

**3 Wings / 23 Squadrons / 3 Shore Commands**



**28 Squadron Augment Units (SAUs)**



**Reserve Maritime Patrol and Reconnaissance Force (MPRF):** MPRF provides operational support to forward commanders while maintaining surge readiness to rapidly mobilize in the event of war or national emergency. To increase lethality in the maritime domain, CNAFR is focused on P-8A recapitalization and fleet integration with

other families of systems, such as the MQ-4C Triton, to support the Navy's Maritime Patrol and Reconnaissance Force mission.

**P-8A Poseidon:** The recapitalization of the Reserve MPRF community to P-8A is planned for FY 2023 and FY 2024 with 11 P-8A aircraft apportioned to the USNR. One additional P-8A is required to fully transition both squadrons to inventory objective.

The RC will operate two MPRF P-8A squadrons: VP-62 based at NAS Jacksonville, FL, and VP-69 located at NAS Whidbey Island, WA. Squadrons are manned, trained, and equipped to provide combat deployments and perform the core missions of ASW and ASuW while maintaining combat ready ISR aircraft and aircrews.

**Reserve Helicopters:** The Reserve rotary wing force provides two RC and two blended AC/RC squadrons that execute regular combat deployments and detachments with their respective platforms.

**MH-60S Knighthawk:** The MH-60S is a multi-mission helicopter capable of performing Surface Warfare (SuW), Maritime Interdiction Operations (MIO), Special Operations Forces (SOF) Support, Personnel Recovery (PR), Combat Search and Rescue (CSAR), Casualty Evacuation (CASEVAC), Search and Rescue (SAR), Vertical Replenishment (VERTREP), Non-Combatant Evacuation Operations (NEO), and Humanitarian Assistance/Disaster Relief (HA/DR).

The RC operates one MH-60S squadron, HSC-85, based at NAS North Island, CA. HSC-85 is the Navy's only dedicated Special Operations support squadron. They are capable of performing all core mission sets, while providing dedicated SOF capability for an enduring detachment to support Special Operations Command Pacific (SOCPAC). The Navy intends to divest of HSC-85 in FY 2023 as a part of the Navy's prioritization of resources toward its force design. Upon divestiture, the SOCOM portion of the mission will be assumed by Special Operations Aviation Regiment mission capable assets, while the Navy subset missions will be picked up by Navy AC HSC Squadrons.

**MH-60R Seahawk:** The MH-60R is a maritime strike helicopter performing primary missions that include ASW, ASuW, EW, and non-combat operations and deployments on Air-Capable ships and CVNs.

The RC operates one MH-60R squadron, HSM-60, based in JAS Jacksonville, FL. The HSM-60 helicopters are configured with the same hardware as the AC, with the addition of the NVD Heads-Up Display (HUD), making aircrews capable of Night Airborne Use of Force (AUF) missions. HSM-60 detachments regularly execute deployments that support GFM tasking.

**MH-53E Sea Stallion:** The MH-53E is a heavy-lift helicopter capable of supporting Airborne Mine Countermeasures (AMCM), Vertical Onboard Delivery (VOD) operations, HA/DR, and Defense Support of Civil Authorities (DSCA).

RC personnel and aircraft are embedded within two blended squadrons that report to Commander, Sea Combat Wing Atlantic: HM-14 and HM-15, both based at NAS Norfolk, VA. These squadrons represent the Navy's only heavy-lift helicopter capability. They are trained and equipped for all core mission sets, and additionally maintain combat detachments capable of worldwide rapid response AMCM support. Navy intends to consolidate HM-14 and HM-15 into a single, larger squadron in FY 2023. The RC presence will not be reduced but integrated into the larger squadron being established.

**Fleet Logistics Support Wing (FLSW):** FLSW aircraft, scheduled by the Navy Air Logistics Office (NALO), remain the Navy's only organic source of intra-theater dedicated air logistics support. The USNR fulfills the Navy Unique Fleet Essential Airlift (NUFEA) requirement with its C-40A and K/C-130T aircraft. Together, they provide the flexible, responsive, and efficient global support the Fleet needs at a lower cost than other DoD and commercial logistics support options. Organic airlift is the only effective means of supporting the Navy's dynamic sea-going force. FLSW personnel conduct operations from their home bases and abroad while operating from permanent detachment sites in CENTCOM (Bahrain), EUCOM (Sigonella), and INDOPACOM (Atsugi). Using FLSW assets rather than USAF or commercial options provides an average of \$1.2 billion cost avoidance for DoN each year.

**C-40A Clipper:** The C-40A is a military variant of the Boeing 737. It has a 3,000 nautical mile (nm) range fully loaded and is reconfigurable to support passengers, cargo, or a combination of both. Established to fulfill Title 10 wartime requirements, the C-40A provides the Fleet with on-demand, medium cargo airlift capability to rapidly support ongoing naval operations. Examples of their services include critical weapons and parts resupply, global personnel movements, supply-chain linkage between commercial and shipboard delivery, and timely deployment and detachment support for myriad entities across the Navy.

The RC operates six C-40A squadrons: VR-51 at MCBH Kaneohe Bay, HI; VR-56 at NAS Oceana, VA; VR-57 at NAS North Island, CA; VR-58 at NAS Jacksonville, FL; VR-59 at NAS JRB Fort Worth, TX; and VR-61 at NAS Whidbey Island, WA. Additionally, these squadrons collectively provide continuous detachment coverage with a minimum of one aircraft in each of three locations: NSA Bahrain, NAS Sigonella, Italy, and NAF Atsugi, Japan.

While the Navy achieved its inventory objective of 17 C-40A aircraft, the warfighting requirement remains 23 aircraft. The Navy has not programmed funding toward these additional six aircraft and has accepted risk in capacity because of competing resource interests. Sustaining the C-40A fleet must remain prioritized to ensure that the Navy continues to receive the support it requires in wartime and contingency operations.

**K/C-130T Hercules:** Like the C-40A, Navy K/C-130T Hercules aircraft provide the Fleet with rapid, on-demand, medium cargo airlift that supports ongoing naval operations.

C-130 series aircraft are also able to airlift outsized cargo (F-35 engines, larger weapons, submarine masts, etc.) that do not fit in the C-40A, making them a critical logistics enabler for the Fleet. They are typically kept in a cargo-only configuration, but support passenger movements as well.

Due to aircraft age and parts obsolescence, current K/C-130T mission-capable rates lag Navy requirements for DMO. **Recapitalizing the Navy Reserve K/C-130T fleet with the KC-130J is the Chief of Navy Reserve's top equipment priority** and will ensure that the Navy is able to receive the support it requires in future wartime and contingency operations. Navy's efforts for recapitalization are evidenced by Navy leadership's inclusion of KC-130J recapitalization on the FY 2023 Navy Unfunded Priority List and are further addressed by the CNO in the 2022 Navigation Plan.

The RC operates five K/C-130T squadrons: VR 53 at Joint Base Andrews, MD; VR-54 at NAS JRB New Orleans, LA; VR 55 at NAS Point Mugu, CA; VR-62 at NAS Jacksonville, FL; and VR-64 at McGuire AFB, NJ. The squadrons also collectively provide continuous detachment coverage with a minimum of one aircraft in each of three locations: NSA Bahrain, NAS Sigonella, Italy, and NAF Atsugi, Japan.

**Service Secretary Controlled Aircraft (SSCA):** The Secretary of the Navy's SSCA aircraft, operated by CNAFR and aligned under Naval Air Facility Washington, provide DoD required-use travelers with on-demand airlift equipped with continuous secure communications while airborne. These aircraft provide airlift capability for senior Service officials when a threat exists that could endanger lives or when there is a need to satisfy short-notice travel requirements that make commercial transportation unacceptable.

VR-1 is based at Joint Base Andrews, MD, and operates the C-37B, a military variant of the Gulfstream 550. VR-1 also maintains one forward-deployed Executive Transport Detachment, VR-1 Detachment Hawaii, located at Joint Base Pearl Harbor–Hickam, HI, which operates the C-37A, a military variant of the Gulfstream V.

**Tactical Support Wing (TSW):** TSW provides expeditionary Airborne Electronic Attack (AEA) and airborne Adversary support to the Navy.

**EA-18G Growler:** The EA-18G Growler provides full-spectrum AEA from land bases and aircraft carriers to exploit, suppress, degrade, and deceive enemy electromagnetic defensive and offensive systems to support joint operations. Because of the advanced capabilities that the EA-18G brings to Combatant Commanders, these assets are in high demand by both INDOPACOM and CENTCOM.

The RC has one EA-18G squadron, VAQ-209, based in Whidbey Island, WA. VAQ-209 deploys regularly to mitigate VAQ operational capacity gaps while providing a formidable strategic capability at a reduced cost. VAQ-209 is highly unique because they are able to leverage their Reserve aircrew's civilian skillsets to link government and military contracting entities outside the Navy directly to the squadron, which creates

dynamic and diverse synergies not found in their AC counterparts. Currently, VAQ-209 executes expeditionary deployment cycles every other year to support GFM. They also regularly participate in various Joint or combined large force exercises.

**F/A-18E/F Hornet:** RC F/A-18E/F Super Hornets provide high-fidelity, professional adversary support to the Fleet by emulating the capabilities and tactics of threat nation air forces. VFC-12, located at NAS Oceana, VA, operates F/A-18E/F to support the Navy's TACAIR Advanced Readiness Programs and advanced Air Wing and Strike Group large force exercises.

**F-16C Fighting Falcon:** In FY 2022, the RC received 12 F-16 Fighting Falcons from the Air National Guard. These aircraft provide high-fidelity, high-end Adversary support to the Fleet by emulating the capabilities and tactics of pacing-threat air forces. VFC-13, located at NAS Fallon, NV, will complete transition from F-5 to F-16 in FY 2023, and operate the F-16 to support the Navy's TACAIR Advanced Readiness Programs, TOPGUN, and Air Wing Fallon events. To enhance replication capabilities, a multi-faceted upgrade program is in progress but remains only partially resourced.

**F-5 Tiger II:** USNR F-5N/F squadrons also provide cost-effective, dedicated professional Adversary support to the Fleet. Aircraft are flown to emulate threat nation tactics and capabilities. VFC-111, in NAS Key West, FL, and VFC-204, in NAS JRB New Orleans, LA, provide undergraduate support to the Fleet Replacement Squadrons during air-to-air training detachments, and graduate level training for Advanced Readiness Program. VFC-204 will complete its transition to the F-5N/F in FY 2023.

The current fleet of F-5 aircraft faces service life limitations that are currently mitigated using the ongoing Block Upgrade efforts and via the procurement of 11 additional F-5 aircraft from the Swiss (first deliveries expected in FY 2023). Thirty percent of aircraft have undergone the block upgrade modification with future planned resources designed to address the remaining shortfall.

#### **b. Navy Expeditionary Combat Command (NECC)**

NECC's mission is to organize, man, train, equip, and sustain Navy Expeditionary Combat Forces to execute combat, combat support, and combat service support missions across the full spectrum of naval, joint, and combined operations that enable access from the sea and freedom of action throughout the sea-to-shore and inland operating environments. Approximately 50 percent of NECC personnel are Navy Reserve Sailors.

**Maritime Expeditionary Security Force (MESF):** The USNR MESF is an operational reserve force that protects critical maritime infrastructure, embarks on military and strategic sealift vessels, and escorts fleet units operating in and around ports across the world. In addition to conducting CONUS high-value unit protection missions, the RC MESF conducts rotational deployments that support AFRICOM and CENTCOM. It also provides mission-enabling augmentation to AC MESF as required. The RC MESF



consists of four Mobile Security Squadrons (MSRONs): MSRON 1 at San Diego, CA; MSRON 8 at Newport, RI; MSRON 10 at Jacksonville, FL; and MSRON 11 at Seal Beach, CA. Each MSRON has geographically dispersed subordinate companies and high value unit protection detachments. The most critical MESF equipment priority is the 40PB and the 40PB prime mover. Both the 34PB and associated prime mover have reached critical maintenance and service life benchmarks, requiring ever-increasing maintenance and overhaul scheduling to meet mission requirements, which increases risk to personnel and readiness. The recapitalization plan to procure the 40PB for both AC and RC began in 2017. To date, 50 boats are on contract and 38 are planned through FY 2028, leaving a shortfall of 32 boats. The RC is seeking to procure 26 boats with NGREA, and the AC is awaiting Congressional decision on the payback from six boats that were transferred to Ukraine. A portion of 34PBs will remain in service to cover the shortfall until recapitalization is complete.

**Navy Expeditionary Logistics Support Group (NAVELSG):** NAVELSG is a vital enabler of Maritime Prepositioning Forces (MPF), Joint Logistics Over the Shore (JLOTS) operations, and maritime forces ashore, providing expeditionary cargo handling services for surface, air, and terminal operations; expeditionary refueling; and expeditionary ordnance handling/reporting/reloading both ashore and afloat in austere expeditionary environments to support worldwide Naval, Joint, interagency, and combined forces/organizations. The USNR accounts for over 90 percent of NAVELSG forces. NAVELSG RC consists of three Navy Expeditionary Logistics Regiments (NELRs)—2nd NELR, in Williamsburg, VA; 4th NELR in Jacksonville, FL; and 5th NELR in Point Mugu, CA—and six Navy Cargo Handling Battalions (NCHBs)—NCHB 5 in Tacoma, WA; NCHB 8 in Fort Dix, NJ; NCHB 10 in Yorktown, VA; NCHB 11 in Jacksonville, FL; NCHB 13 in Gulfport, MS; and NCHB 14 in Port Hueneme, CA.

Though NCHB is at full capacity for individual Tables of Allowance (TOAs), having three shared TOAs across six RC battalions, shortfalls exist in expeditionary ordnance reloading and training equipment, MHE, expeditionary refueling, and organic mobility equipment to move large equipment in austere environments. Expeditionary Logistics Vertical Launch System Reload to support DMO remains a primary focus area. The FY 2022 NGREA procured one TOA that should be delivered in Q1FY 2024.

**Naval Construction Force (NCF):** Navy Reserve NCF units provide a wide range of capability to support Navy and Joint Forces, including the construction and repair of bridges, airfields, forward operating bases, and roads, as well as civic projects for partner nations. The RC represents 45 percent of the total naval construction force capacity. The RC NCF consists of two Naval Construction Regiments (NCR) and five Naval Mobile Construction Battalions (NMCB). RC battalions continue to deploy as detachments in a rotation with AC to support missions in the CENTCOM and AFRICOM areas of responsibility. Additional investment is required to enhance and maintain AC compatibility of Expeditionary Port Damage Repair and Opening (Ex-PDR) and Expeditionary Rapid Airfield Damage Repair (Ex-RADR) capabilities to support

operational plan requirements. Funding is also required to upgrade communications equipment. 7th NCR, NMCB 14, and NMCB 27 are located in Gulfport, MS, while 1st NCR, NMCB 18, NMCB 22, and NMCB 25 are homeported in Port Hueneme, CA.

### **c. Surface Warfare**

RC Sailors support Surface Warfare via the following major surface and amphibious warfare areas: Littoral Combat Ship (LCS) support units; surface readiness detachments; surface and mine warfare development; afloat cultural workshops; Tactical Air Control Squadrons; and Naval Beach Group (NBG) activities consisting of Amphibious Construction Battalions (ACB), Naval Beach Master Units, and Assault Craft Units. Additionally, RC Sailors provide critical sustained operational support to worldwide surface deployments via the RC-to-Sea initiative.

**Navy Reserve LCS Community:** The USNR LCS mission calls for RC Sailors to perform afloat/expeditionary maintenance and Anti-Terrorism Force Protection (ATFP) watch standing aboard LCS hulls. RC LCS units are organized to provide strategic support for warfighting requirements and operational support during normal and surge operations. Shipboard maintenance and watch support remain the primary lines of effort for LCS Reservists. To support their mission, RC LCS units require firearm training simulators for proficiency, and various Search and Rescue (SAR), ATFP, and maintenance equipment for real world operations. LCS Reserve Squadrons (LCSRON) have multiple units in 17 locations with LCSRON ONE HQ at San Diego, CA, and LCSRON TWO HQ at Mayport, FL.

**Naval Beach Group (NBG):** NBG consists of Assault Craft Units, Amphibious Construction Battalions, and Beach Master Units whose primary mission is to provide dedicated support to amphibious operations. The RC maintains qualified boat crews, beach masters, and Seabees to support this effort. RC Sailors make up 86 percent of the ACB force. In addition, the RC owns, operates, and maintains ten Maritime Prepositioning Force Utility Boats in five different locations for training on assault follow-on echelon offload mission support and other home port support requirements. Currently, NBG requires additional Improved Navy Lighterage Systems to train Navy reservists for deployment. NBG-1 is located in Coronado, CA, and NBG-2 is located in Little Creek, VA.

### **d. Naval Special Warfare (NSW)**

For more than a decade, the RC has consistently provided 10 percent of NSW's worldwide deployable capability, including 33 percent of its Unmanned Aerial Systems (UAS) capacity. RC NSW has been at the forefront of innovation and transformation in the Navy Reserve Force by fully integrating with its AC counterpart. This provides additional lethal combat capability for NSW to accomplish its current operational mission downrange, concurrently ensuring NSW maintains a robust operational reserve. RC NSW consists of three AC/RC hybrid commands and 12 Navy Reserve Units located in Coronado, CA, and Little Creek, VA, as well as 14 regional detachments dispersed

across the country. RC NSW relies on a combination of programmed acquisition resourcing and alternate forms of appropriated funds (e.g., NGREA) to procure the equipment required to maintain the highest state of RC readiness.

#### **e. Military Sealift Command (MSC)**

MSC is the Maritime Component Commander for sealift missions for U.S. Transportation Command and the Type Commander for MSC ships for U.S. Fleet Forces Command. MSC is the seaborne transportation provider for DoD, providing worldwide strategic sealift and ocean transportation for all military forces. MSC is represented by five geographic area commands (Atlantic, Pacific, Europe and Africa, Central, and Far East) that exercise tactical control of all assigned U.S. Transportation Command and MSC forces assigned to the numbered fleet commanders. MSC HQ is located in Norfolk, VA. MSC's RC is composed of 976 Selected Reservists operating in 38 units and 2,145 Individual Ready Reserve Sailors in the Strategic Sealift Officer Force (SSOF). The 38 MSC RC units perform a variety of missions supporting worldwide maritime logistics including: Maritime Operations Center, Joint Task Force-Port Opening, and logistics management. The SSOF, consisting of qualified Navy Reserve Officers with civilian credentials and military training, provides DoD the ability to activate, operate, and sustain strategic sealift to support Joint Force and Fleet requirements through all phases of extended conflict in a contested environment.

#### **f. Submarine Force**

The RC submarine force's main missions consist of undersea warfare operations (UWO), expeditionary maintenance (EM), force protection (FP), undersea rescue (UR), mine warfare, and unmanned undersea vehicles (UUVs). The vast majority of RC Sailors support UWO, enabling the AC to sustain around-the-clock antisubmarine warfare operations ashore and at sea. More than 400 EM Sailors augment submarine tender crews and shipyards to provide maintenance support and voyage to deployed submarines worldwide. Strategic Reserve FP units augment Naval and Coast Guard FP units CONUS and OCONUS. The UR teams help rescue Sailors from distressed undersea platforms. Half of the submarine force's UR team is ready to execute a submarine rescue from Coronado, CA, to anywhere in the world within 72 hours. The UUV component performs UUV launch and recovery, Remotely Operated Vehicle operations, and UUV operations center support. The equipment shortfall includes a rescue system training mockup for the RC Undersea Rescue Command (URC). This trainer ensures the URC is proficient in hatch rescue and disabled submarine operations, allowing dynamic training without distracting submarines that are executing national tasking.

#### **g. Information Warfare Force**

Commander, Naval Information Force Reserve (CNIFR) provides man, train, equip, and Information Warfare Community (IWC) leadership for Reserve Information Warfare (IW) professionals. Reserve IWC personnel account for 15 percent of the total Navy Reserve

Force across all ranks. They represent approximately 19 percent of the Navy's total uniformed IW team. Reserve IWC officers and Sailors execute all forms of IW missions, including Meteorological and Oceanographic, Cryptologic, Information, Intelligence and Space Cadre-related operations across all levels of warfare. Roughly two-thirds of the Reserve IWC are organized in approximately 140 Reserve Readiness units that augment over 40 Navy and Joint commands and agencies. Remaining Reserve IW personnel serve alongside their shipmates in Reserve units across the spectrum of warfare in Naval Special Warfare, aviation, surface, subsurface, expeditionary warfare, and Fleet headquarters units.

#### **h. Navy Reserve Medicine**

RC Sailors make up 15 percent of the Navy Medicine team. These expeditionary medical experts operate from optimized platforms to project medical power to support the Navy and Marine Corps. RC Sailors, consisting of Hospital Corpsmen, Medical Officers, Nurses, Dental Officers, and Medical Service Corps Officers are trusted by the warfighters to build and sustain medical readiness, which enables mission success. The seamless integration of RC Sailors with the AC allows Navy Medicine to support global military operations ashore and afloat. Navy Medicine's deployable medical capabilities include establishing and operating Expeditionary Medical Facilities (EMFs), Forward Deployable Preventative Medicine Units (FDPMU), En-Route Care Systems (ERCS), the Expeditionary Resuscitative Surgical System (ERSS), and Expeditionary Medical Units (EMU). RC Sailors support Navy Medicine's expeditionary capabilities and serve as augments onboard Navy hospital ships, accession sites, and Navy Medical Training Commands.

## **2. Status of Equipment**

### **a. Equipment On-hand**

*Table 1, Consolidated Major Item Inventory and Requirements* provides projected RC major equipment requirements and on-hand inventories to meet assigned missions.

### **b. Average Age of Major Equipment Items**

The equipment in *Table 2, Average Age of Equipment*, provides the average age of selected major equipment items at the start of FY 2023. With a Reserve Force that maintains increasingly older equipment, particularly aircraft, there is a compelling need to recapitalize or modernize the USNR's oldest assets. The USNR's primary concern is the K/C-130T (27–32 years old), which operates at a higher than optimal cost per flight hour, produces lower readiness rates than missions require, and provides less capability than its desired replacement platform, the KC-130J. The Navy Reserve is flying some of the last of DoD's legacy C-130 variants, which is affecting nominal cost per hour because of maintenance availabilities and spare parts. There is currently no funded plan to recapitalize Reserve K/C-130T aircraft. KC-130J have been on the Navy's Unfunded Priority List (UPL) for the last 3 years.

### **c. Compatibility of Current Equipment with the AC**

USNR equipment requires compatibility with the AC to support applicable Navy assigned missions. Achieving equipment compatibility with the AC is critical to ensuring the RC can train to the same standards and be ready to operate seamlessly with AC counterparts. While procurement and upgrade programs, Congressional additions, and NGREA funds have helped improve RC equipment capability and compatibility, significant challenges remain. *Table 8, Significant Major Item Shortages* provides the USNR equipment recapitalization priorities.

### **d. Maintenance Issues**

USNR equipment maintenance continues to remain a high priority. Due to competing fiscal priorities, depot throughput limitations, and a high operations tempo, both the AC and the RC are confronted with maintenance shortfalls and backlogs. The USNR's high operational tempo has accelerated equipment degradation and service-life expenditure. Maintenance issues most significantly affect K/C-130T aircraft. These aircraft suffer from long and costly depot maintenance periods, service life–related issues, and a lack of repair parts caused by obsolescence. Modern aircraft such as the C-130J have fewer maintenance and supply issues, generate significant cost avoidance, and provide increased fleet support with better aircraft reliability.

### **e. Modernization Programs and Shortfalls**

The DoN maintains a prioritized list of unfunded equipment. This list is used to inform Unfunded Priority List (UPL) development. When directed, the CNO forwards the UPL to Congress for resourcing consideration. The USNR's top-10 unfunded equipment requirements are provided in *Table 8, Significant Major Item Shortages*.

## **B. Changes Since the Last NGRER**

The following statements represent the latest changes since publication of the FY 2023 NGRER.

- Three C-130T aircraft were stricken in Q4FY 2022 due to a material solution change in the Avionics Obsolescence Upgrade (AOU) Program.
- As a part of divestment from legacy F/A-18 C/D aircraft, VFC-204 transitioned from a Fighter Attack Squadron (VFA) to a Fighter Composite Squadron (VFC), demonstrated by the designation change to VFC.
- VFC-204 will complete transition to the F-5N/F by the end of FY 2023.
- VFC-13 will complete transition from the F-5N/F to the F-16C by the end of FY 2023.
- VP-62 divested all of its P-3C Aircraft and will begin accepting its P-8As in FY 2023. VP-69 will begin divestment at the beginning of FY 2023. Both squadrons will complete the transition by the end of FY 2024.

## C. Future Years Program (FY 2024–FY 2026)

### 1. FY 2026 Equipment Requirements

*Table 1, Consolidated Major Item Inventory and Requirements* identifies major equipment requirements and on-hand inventories projected from FY 2024 to FY 2026.

### 2. Anticipated New Equipment Procurements

*Table 4, NGREA Procurements* reflects anticipated new procurements for the Navy Reserve.

### 3. Anticipated Withdrawals and Transfers from AC to RC

*Table 5, Projected Equipment Transfer/Withdrawal Quantities* identifies major RC equipment forecasted for withdrawal or decommissioning and anticipated equipment transfers from the AC to the RC.

Differences in *Table 5* from FY 2023 and FY 2024 NGRER:

- The USNR is scheduled to divest all Legacy F/A-18A–D aircraft by the end of FY 2022. These aircraft will be replaced with 12 F/A-18E/F aircraft and 12 F-16C aircraft.
- The P-3C divestment schedule has been updated to reflect divestment at the end of FY 2023.
- P-8A delivery has been updated to show only seven aircraft to be delivered in FY 2024 and two more in FY 2025.
- Two MH-53E will be divested of in FY 2024 following the sundown of HM-14 and future disestablishment of the HM community.

### 4. Equipment Shortages and Modernization Shortfalls at the End of FY 2026

Aircraft recapitalization remains the USNR’s number one equipment priority. *Table 1, Consolidated Major Item Inventory and Requirements* and *Table 8, Significant Major Item Shortages* provide a listing of the RC’s projected on-hand equipment inventories and requirements through FY 2026.

## D. Summary

Mission One for every Sailor—active and reserve, uniformed and civilian—is the warfighting readiness of today’s Navy.<sup>6</sup> To this end, the USNR must continue to prioritize AC/RC compatibility and interoperability. Specifically, we must recapitalize our RC aircraft at a rate that generates a force multiplier and maintains operational relevance. We must modernize our capabilities to increase our effectiveness when

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<sup>6</sup> FRAGO 01/2019: A Design for Maintaining Maritime Superiority, December 2019.

called to deploy. We must grow our investment in expeditionary logistics to support DMO to provide maximum support to the fleet during sustained military conflict.

America's USNR remains ready to respond when called. In the face of enduring strategic competition, investment in a forward-looking, holistic Total Force ensures the most effective and lethal reserve warfighting component possible.

## Consolidated Major Item Inventory and Requirements

*NOTE: This table provides a comprehensive list of selected major equipment items. It provides the projected inventory quantity on-hand (QTY O/H) at the beginning/end of the selected fiscal year (FY). It also provides the quantity required (QTY REQ) to meet the full wartime requirements of the Reserve Component. In accordance with Title 10, the QTY REQ number provides the recommendation as to the quantity and type of equipment that should be in the inventory of each Reserve Component. FY 2023 unit cost estimates are provided by the Military Departments.*

Nomenclature	Equip No.	Unit Cost	Begin FY 2024 QTY O/H	Begin FY 2025 QTY O/H	Begin FY 2026 QTY O/H	End FY 2026 QTY O/H	End FY 2026 QTY REQ
<b>Aircraft</b>							
Aircraft, Transport, C-40A (Boeing 737-700)	C-40A	\$90,000,000	17	17	17	17	23
Aircraft, Transport, C-130T (Hercules)	C-130T	\$64,200,000	16	16	16	16	16
Aircraft, Transport, KC-130T (Hercules)	KC-130T	\$73,000,000	11	11	11	11	11
Aircraft, Transport, C-37A (Gulfstream)	C-37A	\$71,100,000	1	1	1	1	1
Aircraft, Transport, C-37B (Gulfstream)	C-37B	\$67,600,000	3	3	3	3	3
Aircraft, Patrol, P-3C (Orion)	P-3C	\$36,000,000	0	0	0	0	0
Aircraft, Patrol, P-8A (Poseidon)	P-8A	\$174,000,000	2	9	11	11	12
Aircraft, Electronic Attack, EA-18G (Growler)	EA-18G	\$98,000,000	5	5	5	5	5
Aircraft, Fighter/Attack, F/A-18E (Super Hornet)	F/A-18E	\$68,000,000	9	9	9	9	9
Aircraft, Fighter/Attack, F/A-18F (Super Hornet)	F/A-18F	\$68,000,000	3	3	3	3	3
Aircraft, Fighter, F-5F (Tiger II)	F-5F	\$21,700,000	2	4	5	4	4
Aircraft, Fighter, F-5N (Tiger II)	F-5N	\$3,300,000	31	33	35	37	41
Aircraft, Fighter, F-16C Fighting Falcon	F-16C	\$18,800,000	12	12	12	12	12
Helicopter, ASW, MH-60R (Seahawk)	MH-60R	\$47,700,000	5	5	5	5	5
Helicopter, NSW, MH-60S (Knighthawk)	MH-60S	\$31,400,000	0	0	0	0	0
Helicopter, Mine Warfare, MH-53E (Sea Dragon)	MH-53E	\$71,300,000	7	7	7	7	7
<b>Aviation Simulators</b>							
C-130T Simulator	C-130T SIM	\$8,893,000	2	2	2	2	2
F-5 Simulator	2F213	\$4,000,000	2	2	2	2	2
FA-18C Simulator	2F193A	\$7,964,000	0	0	0	0	0
F-16C Simulator	F-16C SIM	\$3,500,000	1	1	1	1	1
<b>Naval Beach Group</b>							
Maritime Prepositioning Force Utility Boat	MPF-UB	\$1,000,000	10	10	10	10	10
Naval Beach Group Table of Allowance (TOA) Equipment	NBG	\$26,705,722	1	1	1	1	1
<b>Naval Construction Force (NCF)</b>							
Construction Battalion Maintenance Unit TOA	CBMU	\$15,420,940	2	2	2	2	2
Naval Mobile Construction Battalion TOA	NMCB	\$101,555.72	5	5	5	5	5
Naval Construction Regiment TOA	NCR	\$16,308,310	2	2	2	2	2
Construction Capability Augment TOA	NCFCCA	\$320,025.51	1	1	1	1	1
NAVCONTGRU Equipment	NAVCONSTGRU	\$72,483,644	2	2	2	2	2
<b>Maritime Expeditionary Security Force (MESF)</b>							
40 Foot Patrol Boat	40PB	\$3,950,000	20	25	32	36	77
34 Foot Patrol Boat	34PB	\$1,200,000	57	52	45	41	19
Squadron TOA Equipment	MSRON	\$15,585,838	4	4	4	4	4
MobileSecurity Company TOA Equipment	MESCO	\$22,627,290	16	16	16	16	16
<b>Navy Expeditionary Logistics Support Group (NAVELSG)</b>							
Navy Expeditionary Logistics Regiment TOA	NAVEXPLOGREG	\$4,713,430	1	2	2	3	3
Navy Cargo Handling Battalion (Commercial) TOA	NAVCARGOBN (C)	\$52,252,357	2	2	2	2	2



**Consolidated Major Item Inventory and Requirements**

Nomenclature	Equip No.	Unit Cost	Begin FY 2024 QTY O/H	Begin FY 2025 QTY O/H	Begin FY 2026 QTY O/H	End FY 2026 QTY O/H	End FY 2026 QTY REQ
Navy Cargo Handling Battalion (Tactical) TOA	NAVCARGOBN (T)	\$57,930,488	1	1	1	1	1
Expeditionary VLS Reload ERC TOA	EXORD VLS TOA	\$10,868,053	0	1	2	3	6

# USNR

## Average Age of Equipment

Table 2

<i>NOTE: This table provides the average age of selected major equipment items. The average age provides a projected average age of the fleet at the start of FY 2023.</i>			
Nomenclature	Equip No.	Average Age	Remarks
<b>Aircraft</b>			
Aircraft, Transport, C-40A (Boeing 737-700)	C-40A	15	
Aircraft, Transport, C-130T (Hercules)	C-130T	28	
Aircraft, Transport, KC-130T (Hercules)	KC-130T	33	
Aircraft, Transport, C-37A (Gulfstream)	C-37A	22	
Aircraft, Transport, C-37B (Gulfstream)	C-37B	18	
Aircraft, Patrol, P-3C (Orion)	P-3C	36	
Aircraft, Patro, P-8A (Poseidon)	P-8A		
Aircraft, Electronic Attack, EA-18G (Growler)	EA-18G	11	
Aircraft, Fighter/Attack, F/A-18E (Super Hornet)	F/A-18E	21	
Aircraft, Fighter/Attack, F/A-18F (Super Hornet)	F/A-18F	21	
Aircraft, Fighter, F-5F (Tiger II)	F-5F	25	
Aircraft, Fighter, F-5N (Tiger II)	F-5N	42	
Aircraft, Fighter, F-16C (Falcon)	F-16C	35	
Helicopter, ASW, MH-60R (Seahawk)	MH-60R	9	
Helicopter, ASW, MH-60S (Knighthawk)	MH-60S	13	
Helicopter, Mine Warfare, MH-53E (Sea Dragon)	MH-53E	33	
<b>Aviation Simulators</b>			
C-130T Simulator	C-130T SIM	31	
F-5 Simulator	2F213	12	
F-16C Simulator	F-16C SIM	29	
<b>Naval Beach Group</b>			
Maritime Prepositioning Force Utility Boat	MPF-UB	11	
Naval Beach Group Table of Allowance (TOA) Equipment	NBG	7	
<b>Naval Construction Force (NCF)</b>			
Construction Battalion Maintenance Unit TOA	CBMU	14	
Naval Mobile Construction Battalion (NMCB) TOA	NMCB	14	
Naval Construction Regiment TOA	NCR	12	
Construction Capability Augment TOA	NCFCCA	15	
NAVCONTGRU Equipment	NCGEQP	15	
<b>Maritime Expeditionary Security Force (MESF)</b>			
Squadron TOA Equipment	MSRON	16	
Company Security Company	MESCO	16	
MK VI Patrol Boat	MKVIPB	7	
40 Foot Patrol Boat	40PB	1	
34 Foot Patrol Boat	34PB	18	
<b>Navy Expeditionary Logistics Support Group (NAVELSG)</b>			
Navy Expeditionary Logistics Regiment Staff TOA	NELRHQ	14	
Navy Cargo Handling Battalion (Commercial) TOA	NAVCARGOBN (C)	14	
Navy Cargo Handling Battalion (Tactical) TOA	NAVCARGOBN (T)	14	

**Service Procurement Program - Reserve (P-1R)**

*NOTE: This table provides a comparison of the dollar value of the FY 2021 request, the FY 2021 enacted amount; and, the actual amount spent on procurement for specific categories of RC equipment. All values are costs in millions. Deliveries of procured equipment normally take one to two years before they arrive in the inventory; e.g., items procured in FY 2023 are expected to arrive in RC inventories in FY 2024 or FY 2025.*

Nomenclature	Request	Enacted	Actual
Other Aircraft	448	443	443
Modification of Aircraft	74	62	66
Command Support Equipment	6	6	6
Civil Engineering Support Equipment	0	0	0
<b>Total</b>	<b>528</b>	<b>510</b>	<b>514</b>

## National Guard and Reserve Equipment Account (NGREA) Procurements

*NOTE: This table identifies the dollar value of planned equipment procurements with the National Guard and Reserve Account (NGREA). These funds are available for a three-year period from the year of appropriation. Deliveries of procured equipment normally take one to two years from the date of procurement before they arrive in the inventory.*

Navy Reserve Defense Appropriations Act NGREA	FY 2021	FY 2022	FY 2023 <sup>1</sup>
Crane Simulator	2,400,000		
Prime Mover	1,624,000		
Satellite Communications Equipment	3,492,988		
Light Service Cargo Truck	2,814,000		
Boom Fork Truck	1,512,000		
Water Distribution Vehicle	580,000		
Fuel System Supply Point	3,225,000		
Experimental Diving Unit Equipment	402,600		
Gauge Calibration Equipment	222,483		
Vertical Launch Reload Equipment		10,200,000	
F-5 Upgrades	26,606,000	18,800,000	
VFC-111 Mobile Secure Facility	2,000,000		
F-16 Avionics		6,288,000	
F-5 Maintenance Support Equipment	1,290,000	2,598,880	
MH-60S Equipment	5,545,000		
MK18 Unmanned Underwater Vehicle System		2,611,264	
K/C-130T Corrosion and Safety Upgrades	194,030	2,100,000	
C-40 Aircraft Protective Equipment	582,150		
Ship Maintenance Tool Kits	9,749		
Communications Equipment		2,531,284	
Force Protection 40-Foot Patrol Boat		6,280,000	
Exploitation Diagnostic Equipment		467,000	
Double Joint Modular Intermodal Container		32,000	
Ship Maintenance Training Equipment		522,900	
Field Medical Equipment		68,672	
<b>Total USNR NGREA</b>	<b>52,500,000</b>	<b>52,500,000</b>	<b>55,000,000</b>

1. FY 2023 spending data was not available at time of publication.

**Projected Equipment Transfers and Withdrawals**

*NOTE: This table portrays the planned equipment transfers (Active to Reserve), withdrawals (-), and decommissioning (-). Transferred equipment is commonly called "cascaded equipment," or equipment that is provided to the RC once the AC receives more modern equipment. Although this table highlights a three-year period, many Services will not know exact quantities of transfers or withdrawals until year of execution, due to the uncertainty of the procurement/delivery cycle of new equipment.*

Nomenclature	Equip No.	FY 2024 Qty	FY 2025 Qty	FY 2026 Qty	Remarks
Aircraft, Transport, C-130T	F-5F	0	0	0	
Aircraft, Fighter, F-5F	F-5F	+1	0	+1	Add'l F-5s from Swiss buy.
Aircraft, Fighter, F-5N	F-5N	+2	+2	+2	Add'l F-5s from Swiss buy.
Aircraft, Fighter, F-16C	F-16C	0	0	0	VFC-13 will transition to 12 F-16Cs by the end of Q2 FY23.
Aircraft, Patrol, P-3C	P-3C	0	0	0	Support LSRS requirement through FY22 w/ full P-3 sundown scheduled for 1QFY23.
Aircraft, Patrol, P-8A	P-8A	+7	+2	0	VP-62 and VP-69 slated to transition to P-8A beginning in FY23, 2 P-8 in FY23, 7 in FY24, and 2 in FY25 for 11 of 12
Aircraft, Helicopter, MH-60S	MH-60S	-10	0	0	Navy plans to divest to of all HSC-85 aircraft by the end of FY23
Aircraft, Helicopter, MH-53E	MH-53E	0	0	0	Planned Sundown of HM-14 in FY23 but no reduction in number of aircraft.
40 Foot Patrol Boat	40PB	+4	0	0	MSRON 1, 8, 10 and 11 transitioning from 34PB to 40PB. These procurements started in FY17 fill existing shortfalls.
34 Foot Patrol Boat	34PB	-4	-4	-4	

### FY 2020 Planned vs Actual Procurements and Transfers

*NOTE: This table compares planned Service procurements and transfers to the RC in FY 2020 with actual procurements and transfers. FY 2020 is selected as these are the most recent funds to expire. Because the procurement cycle is normally one to two years from funding to delivery, this table identifies only deliveries through the end of 2022. Procurement and NGREA columns reflect cost values in dollars. In FY 2020, \$1.3 billion of NGREA was reprogrammed by DoD.*

Nomenclature	Equip. No.	FY 2020 Transfers (# of items)		FY 2020 Procurements (\$s)		FY 2020 NGREA (\$s)	
		Plan	Actual	Plan	Actual	Plan	Actual
<b>FY 2020 Planned Transfers &amp; Withdrawals</b>							
Aircraft, Fighter/Attack, F/A-18C (Hornet)	F18C	5	5				
Aircraft, Fighter/Attack, F/A-18D (Hornet)	F18D	3	3				
<b>FY 2020 Service Procurement Programs – RC (P-1R) Equipment</b>							
<b>Other Aircraft</b>							
KC-130J				306,901,000	306,901,000		
F-5				19,876,000	19,876,000		
<b>Modification of Aircraft</b>							
Adversary				3,415,000	3,415,000		
H-53 Series				519,000	519,000		
C-130 Series				25,771,000	22,686,000		
Cargo/Transport A/C Series				8,767,000	8,767,000		
<b>Civil Engineering Support Equipment</b>							
Construction & Maintenance Equip				8,311,000	8,311,000		
Items Less Than \$5 Million				7,019,000	7,019,000		
<b>Personnel &amp; Command Support Equip</b>							
C4ISR Equipment				1,572,000	1,572,000		
Physical Security Equipment				4,963,000	4,963,000		
<b>Total</b>				<b>387,114,000</b>	<b>384,029,000</b>		
<b>FY 2020 National Guard and Reserve Equipment Account (NGREA) Equipment</b>							
<b>Total</b>						<b>0</b>	<b>0</b>

**Major Item of Equipment Substitution List**

*NOTE: This table identifies equipment authorized by the Service to be used as a substitute for a primary item of equipment. The table also identifies whether or not the item is deployable in wartime. This data meets the Title 10 requirement to identify substitutes that are not the most desired equipment item.*

Required Item Nomenclature	Required Item Equip No.	Substitute Item Nomenclature	Substitute Item Equip No.	FY 2023 Qty	Deployable?	
					Yes	No

**Service Does Not Use Substitution to Satisfy Major Item Equipment Requirements.**

**Significant Major Item Shortage**

*NOTE: This table provides a RC top ten prioritized (PR) shortage list for major equipment items required for wartime missions. It lists the total quantity required, the total shortfall, the individual item cost, and the cost of the shortfall. This data is consistent with other equipment data submitted by the Service.*

PR	Nomenclature	Total Req'd	# Items Short	Item Cost	Total Shortage Cost	Rationale/Justification
1	KC-130J	32	32	109,700,000	3,510,400,000	Procure 32 KC-130J aircraft to replace the aging and maintenance-intensive K/C-130T aircraft. The K/C-130T fleet is a crucial part of the Navy Unique Fleet-Essential Airlift (NUFEA) requirement. They serve as a connector between strategic airlift points, and they provide global logistics support while specializing in airlift for oversized cargo. Without recapitalization to KC-130J, K/C-130T readiness will not meet capacity requirement for intra-theater airlift to resupply, rearm, refuel, and redeploy Navy forces to support Distributed Maritime Operations.
2	Expeditionary Vertical Launch System (VLS) Reload Equipment	6	5	10,868,053	54,340,265	The Naval Expeditionary Logistics Support Force (NAVELSF) conducts ordnance reload operations in non-permissive environments where Navy Munitions Command (NMC) units do not have the capacity or capability. Reloading surface combatants in non-permissive environments gives Combatant Commanders agility within Strategic Competition. This capability provides each Expeditionary Reload Company (ERC) the tools to safely handle, load/offload ordnance including Vertical Launch System (VLS) canisters and cargo arriving from their delivery source (aircraft or ship), transport VLS canisters and cargo to the loading location, and reload VLS canisters and cargo onto the surface combatant. Finally, the capability will also enhance the conduct of cargo sorting and prioritization of airfreight or ocean cargo to and from Air Mobility Command (AMC) aircraft or ships. Lack of funding would negatively impact NAVELSF's ability to train and certify ERC Teams to meet request for forces requirements.



**Significant Major Item Shortage**

PR	Nomenclature	Total Req'd	# Items Short	Item Cost	Total Shortage Cost	Rationale/Justification
3	Force Protection Large / PB40 Patrol Craft	96	26	3,950,000	102,700,000	<p>Current Force Protection Large (FP-L - 34FT PBs) patrol boats have reached the end of their sustainable service life or require expensive service life extension. The ever-increasing maintenance/CMAV/overhaul scheduling required to meet mission requirements introduces increased risk to personnel and readiness.</p> <p>Current funding levels for follow-on procurement/acquisition strategy of the new FP-L (40PB) will not deliver Full Operating Capability (FOC) until FY30. The addition of the RC HVU mission requirement increases the requirement for patrol boats. Currently, 34PBs are being sourced from the RC squadrons' training allotment as well as suitable substitute patrol boats reactivated from the Boat Inventory Manager to temporarily meet these requirements. 40PB is the designated replacement program for the aging 34PBs.</p>
4	F-5 Block Upgrade	42	25	4,000,000	100,000,000	<p>The Navy Reserve's fleet of F-5N/F aircraft are outdated, and the aircraft are scheduled to remain in service until 2035. These aircraft require significant modernization to their avionics and tactical systems to allow safe and effective operation going forward. Modernization efforts include: updated navigation systems, avionics, displays, a night vision device compatibility, a helmet-mounted cueing system, and a digital architecture that will allow for future modernization. There are currently 31 F-5N/F in the Navy Reserve. 11 additional aircraft have been procured from the Swiss over the FYDP, all of which are funded for the Block Upgrade modification.</p>

## Significant Major Item Shortage

PR	Nomenclature	Total Req'd	# Items Short	Item Cost	Total Shortage Cost	Rationale/Justification
5	P-8A Inventory Completion	12	1	174,000,000	174,000,000	Procure 1 additional P-8A to recapitalize RESFORON P-3Cs with Fleet representative aircraft. Without the final aircraft the two Maritime Patrol Force RESFORONs will not be fully recapitalized to meet requirements.
6	C-40A Inventory Completion	23	6	90,000,000	540,000,000	The requirement for the C-40A inventory is 23 aircraft resulting from a "validated" 2007 CNA study. 23 C-40A aircraft allows the Navy Reserve to continue to provide unparalleled flexibility to support worldwide fleet logistics operations as the demand for this capability only continues to grow fleet-wide. As the VRM concept within the CSG demonstrated through multiple deployment experiences, VRM's ability to deploy is closely tied to the mobility afforded by the C-40 fleet. A full compliment of airplanes will be paramount to keep the carrier logistics force supplied.
7	F-16 Adversary RedNet	12	12	562,500	6,750,000	The current RedNet architecture leverages a TCTS pod mission kit which transmits unencrypted TCTS I data from the pod to the electronic kneeboard in the cockpit over Wi-Fi. This provides real-time TCTS data in-cockpit to Adversary pilots and greatly enhances the tactical capabilities and safety of flight of Adversary aircraft. Procuring RedNet will help with ensuring long-term Adversary capability to provide the fleet with relevant, necessary tactics training.
8	MH60R Digital Magnetic Anomaly Detector (DMAD)	5	5	650,000	3,250,000	Digital Magnetic Anomaly Detector (DMAD) is being introduced to the MH-60R in response to a fleet need for a non-acoustic submarine detection capability that will be effective in acoustically harsh environments. DMAD has been highly successful in detecting submarines when used in multiple MH-60R fleet experiments and procurement would allow for the RC to keep pace with AC.

## Chapter 5 United States Air Reserve Components

*My highest personal goal as Secretary has been to instill a sense of urgency about our efforts to modernize and ensure that we improve our operational posture relative to our pacing challenge: China, China, China. The most important thing we owe our Airmen and Guardians are the resources they need, and the systems and equipment they need, to perform their mission.*

**–Secretary Frank Kendall, Secretary of the Air Force**

*The greatest security threat that America faces is military modernization and the dangers posed by China and Russia.*

**–General Charles “CQ” Brown, Chief of Staff of the Air Force**

### I. Department of the Air Force Overview

#### **UNITED STATES AIR FORCE MISSION**

*Fly, Fight, and Win...Airpower Anytime, Anywhere*

#### **UNITED STATES AIR FORCE VISION**

*The World’s Greatest Air Force, Powered by Airmen, Fueled by Innovation*

#### **UNITED STATES SPACE FORCE MISSION**

*The USSF is responsible for organizing, training, and equipping Guardians to conduct global space operations that enhance the way our joint and coalition forces fight, while also offering decision makers military options to achieve national objectives.*

### A. Air Force Planning Guidance

The Air Force must accelerate change or lose its role as the global leader in airpower. In an environment of aggressive global competitors and technology development and diffusion, the Air Force must accelerate change to control and exploit the air domain while also underwriting national security through nuclear deterrence to the standard the nation expects and requires. The necessity to accelerate change or lose is the impetus behind the Department of the Air Force’s operational imperatives, which are identifying the changes and investments needed to be successful. To best address these necessary changes, the Air Force must balance risk over time. The Air Force will develop and field new capabilities expeditiously while selectively divesting older platforms that are no longer relevant to our pacing challenge—all while maintaining readiness. The Air Force must ensure its path continuously drives toward readiness to

be best prepared when called upon by the nation. Accelerating change means both getting the direction right and moving as fast as possible.<sup>1</sup>

Airmen have performed the Air Force's five core missions superbly while executing almost three decades of near-continuous combat operations in relatively uncontested environments. Past success, however, is no guarantee of future performance. Absent change, our presumed advantage will continue to erode, and the U.S. Air Force will not be adequately prepared for the warfighting challenges in contested environments. Absent change, our nation will assume increasing risks to our mission and our forces. Many of the requirements for capabilities that have underpinned our success were developed in the decade when today's most senior leaders joined our Air Force. Since then, much has changed. Not only has the technology revolution dramatically changed the ways in which humans and economies interact in the world, it has changed the way militaries can develop and project power. Unlike in the past, many of the emerging technologies that will determine our future are no longer created or funded by DoD. The processes with which we build capabilities for our Airmen have not adapted to these changes; the ways in which we test, evaluate, and train with them do not meet current or future demands. While we have made progress, our Airmen need us to integrate and accelerate the changes necessary to explore new operational concepts and bring more rapidly the capabilities that will help them in the future fights.<sup>2</sup>

The Air Force's readiness hinges on the ability to operate, maintain, and sustain an aging fleet of aircraft while funding the flying hour program to the maximum executable level. The Air Force will continue to modernize to ensure a more lethal, resilient, sustainable, survivable, agile, and responsive force. As such, the Air Force must have a mix of multi-role air superiority capabilities and capacity to defend the homeland, project airpower globally, and operate as a joint and allied and partner force.<sup>3</sup>

To do this, we must contribute to the Joint Warfighting Concept, enabled by Joint All-Domain Command and Control (C2), and place capability in warfighters' hands faster through innovation, experimentation, and rapid prototyping and a collaborative approach with our service and industry teammates. We must also use this opportunity, given the stand-up of the U.S. Space Force, to evaluate and adjust internal U.S. Air Force structures and decision processes, including service-assigned roles and missions internal to the Department of the Air Force and within the Joint Force. We must also consider how to achieve improved interoperability and data sharing with our closest allies and partners so that we can fly, fight, and win together. We should expand our network of like-minded Airmen from around the world, leveraging our common perspective against shared threats to present multiple dilemmas to our competitors and adversaries (accelerate change or lose). The necessity of Congressional backing to

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<sup>1</sup> Air Force Posture Statement, FY 2023.

<sup>2</sup> Accelerate Change or Lose, Gen Charles q. Brown, dated August 26, 2020.

<sup>3</sup> Air Force Posture Statement, FY 2023.

invest in the future while we continue divesting outdated assets and building modernized air and space capabilities will only increase as the Department continues its modernization efforts to deter, and, if called upon, to win the nation's future conflicts.<sup>4</sup>

## **B. Air Force Equipping Policy**

The cornerstone of creating the Air Force that can project airpower and maintain our competitive advantage is parity between the Active Component (AC) and Air Reserve Component (ARC).

The Department of the Air Force Policy Directive (DAFPD) 10-9, Lead Command/Lead Agent Designation and Responsibilities for United States Air Force Weapons Systems, Non-Weapons Systems, and Activities, establishes lead command responsibilities for organizations that possess Air Force weapons systems. It prescribes the policy of the Air Force that all forces must support the Air Force's effort to maintain configuration control, commonality, and capability synchronization for interoperability within total force operations. Air Force Futures (AF/A5A) designs products for the future force that define requirements and maintain a force structure that balances complementary capabilities and affordability (DAFPD 10-9). The USAF will continue to adhere to the principle of proportional and concurrent fielding across the components, as seen in the F-35 and KC-46 programs. Accordingly, in advance of full integration, new equipment will arrive at ARC units simultaneously with its arrival at AC units in the proportional share of each component.

## **C. Plan to Fill Equipment Shortages in the RC**

Air Reserve Component units earn equipment based on the Unit Type Codes (UTC) that they fill for global tasking. UTCs define the requirements for weapons systems and their required support equipment. Units highlight their shortfalls through the readiness reporting process.

The USAF equipping policy of concurrent fielding has left no major weapons systems shortages in the ARC. Although it would be preferable to recapitalize legacy systems at a faster rate, the current plan of record leaves no units unequipped to contribute to the USAF mission.

## **D. Initiatives Affecting RC Equipment**

Meeting our obligations to the nation and the joint force demands we accelerate the transformation from the force we have today to the one needed to meet our pacing challenge. The risks we must address are increasing over time, in both strategic and conventional defense. This evolving strategic landscape requires us to balance risk by investing in the more capable and lethal future force the nation needs to more effectively counter current and emerging threats.

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<sup>4</sup> Ibid.

This transition is just beginning; achieving it will require trade-offs between maintaining capabilities to address combatant commands' current needs and accelerating vital modernization efforts for success in high-end conflicts. These investments have been prioritized to focus on key contributors to military advantage.<sup>5</sup>

The Department of the Air Force has evaluated the threat landscape and determined that additional modernization efforts are required to address seven conventional warfare operational imperatives. The former AF/A9, Office of Air Force Studies, Analysis, and Assessments, element of the Air Staff has been transferred to the Office of the Secretary of the Air Force and redesignated as the Department of the Air Force Studies and Analysis Office (DAFSA). DAFSA will provide analytical support to each of seven imperatives. These seven imperatives focus our efforts and lay the framework for this and subsequent budgetary requests. They also reflect the conventional warfare priorities of the Department of Defense and the Department of the Air Force. Our current capabilities in each of these areas will not be adequate to address emerging threats, and hard choices in future budgets will almost certainly be necessary. In accordance with the Secretary of the Air Force's seventh operational imperative, to provide effective integrated deterrence, the Department of the Air Force must be fully ready to expeditiously transition to a wartime posture. We must be ready to mobilize against a peer competitor who has spent decades researching and developing the means to attack the systems and infrastructure we depend on to go to war through cyber and non-cyber means.<sup>6</sup>

## **E. Plan to Achieve Full Compatibility Between AC and RC**

The Department of the Air Force requires a modernized force that is relevant today and long into the future. We are hard at work designing our future force. We must invest in the cutting-edge technologies and capabilities that are critical to securing our military advantage in the future by updating our two legs of the nation's nuclear triad, and our nuclear command, control, and communications systems. Enabling our military advantage in the long term means we need to shift away from legacy platforms and weapons systems that will be irrelevant in the future—our aircraft fleet is 30 years old on average, and 44 percent are beyond their designed service life. Maintaining our aging weapon systems is costly now and, without change, will mortgage our future. We must also create decision superiority by delivering information and capabilities to decision makers at all echelons through a "military internet of things." A critical step includes accelerating C2 infrastructure by investing in the Advanced Battle Management System (ABMS)—a vital contribution by the Department of the Air Force to Joint All-Domain C2. We must methodically and immediately move out on tough decisions to compete.<sup>7</sup>

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<sup>5</sup> Air Force Posture Statement, FY 2023.

<sup>6</sup> Ibid.

<sup>7</sup> Ibid.

The Air Force's future force design recognizes the need for change and the range of threats to the nation, our allies, and partners. In 2021, we identified three key capability development areas for investment: connect the joint force, generate combat power, and conduct logistics under attack.

Moving forward, we will prioritize the resources that will allow us to continue to make investments in these areas, with more to come. Additionally, the Air Force will prioritize affordable, analytically defensible force structure and system capability proposals within its resources. Through partnership with Congress, the Air Force will prioritize resources to guard the foundations of national freedom and independence for America and our allies.<sup>8</sup>

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<sup>8</sup> Air Force Posture Statement, Fiscal Year 2023.

## II. Air National Guard (ANG) Overview

### A. Current Status of the ANG

#### General Overview

The National Guard's primary purpose is fighting America's wars. We continually participate in deployments around the globe to help deter aggression from strategic competitors; train alongside our international allies and partners; and ensure we are manned, trained, and equipped for combat. We are a tremendous value to America, as the National Guard provides approximately 20 percent of the total Joint Force at only 4 percent of the Department's budget. We augment the Joint Force across all aspects of National Defense Strategy implementation, and directly support our communities in tangible and substantial ways. We do all this with lower training costs, lower facility and land use costs, and low personnel turnover. In fact, despite the national and international challenges of the past few years, the National Guard's retention rate remains high; people believe in what we're doing and want to be a part of it.

#### Top ANG Equipment Focus Areas

- **Combat Aircraft Modernization:** Enhance weapons systems' lethality and survivability using adaptable electronic warfare suites and concurrent simulators with modern threat replication.
- **Mobility Fleet Modernization:** Update avionics/instrumentation and integrated defensive systems to improve interoperability with joint and coalition partners against advanced adversaries.

Today's ANG stands stronger, more capable, and more professional than ever. We are ready to maintain our nation's competitive edge in this new strategic environment focused on China and Russia. We are ready to fight and win future conflicts as part of the Joint Force. We are also ready to use our skills, equipment, training, and personnel to aid American communities in times of crisis.

The ANG is expected to be—and must be—fully interoperable with joint and coalition partners to meet the demands of the modern battlefield, where all components have deployable, sustainable, and interoperable equipment. We are working with the senior leadership of the Air Force to ensure our force structure and equipment is included in future force design and modernization. We cannot predict when or where the next conflict will be, or what our competitors are bringing to bear, so we must stay engaged throughout this process to ensure our equipment, training, and processes are modernized and ready to fight and win.

The lifeblood of the ANG's modernization efforts is the use of National Guard and Reserves Equipment Account (NGREA) funds to supplement, not substitute for, Air Force modernization funding and acquire off-the-shelf solutions to reduce cost, procure equipment, and fill mission-critical shortages that improve readiness.



## 1. Current Status of Equipment

The ANG support equipment and vehicle inventory fill-rate is 92 percent and 87 percent respectively. These rates have remained at or above 85 percent for the past four reporting periods.

### a. Equipment On-hand

*Table 1: Consolidated Major Item Inventory and Requirements* provides projected RC inventory of major items including air refueling, air support, airlift, fighter, and rescue aircraft.

### b. Average Age of Major Items of Equipment

The average age of ANG aircraft is 27 years old, ranging from an average of 63 years old for the KC-135T fleet to an average of 2 years old for the KC-46. Support equipment used to sustain ANG aircraft is still challenging to maintain and procure. As original manufacturers stop manufacturing some support items or produce items that are no longer viable, maintenance costs continue to increase. See *Table 2: Average Age of Equipment* for the average age of major equipment items as of the start of FY 2023.

### c. Compatibility of Current Equipment with AC

The ANG is focused on readiness because the NDS demands more lethality from the military. This readiness requires the ANG to be deployable, sustainable, and interoperable with the AC. Enhancing full time support and replacing and upgrading dilapidated facilities are vital steps. The ANG also requires parity when equipping its force via concurrent and balanced modernization and recapitalization so that it can deliver the lethality required to the joint force.

### d. Maintenance Issues

The ANG continues to operate and maintain the oldest aircraft in the USAF inventory while facing significant challenges to increasing aircraft availability. Aircraft support and test equipment are critical to daily maintenance operations at all ANG flying units. **Much of the equipment used in testing aircraft systems is nearing the end of its designated useful life and is increasingly difficult to sustain and expensive to repair.** The ANG functions at a prolonged high operations tempo that drives the need for efficient maintenance processes and robust supply chains. Devices enhancing maintenance efficiency and safety while improving capabilities also improve aircraft availability, reduce operating costs, and enhance agile combat support. State of the art equipment such as the maintenance inspection platforms, maintenance cranes, and digital test equipment reduce aircraft downtime, allow logistics personnel to maintain a high rate of sortie generation, and ensure the longevity, relevance, reliability, and responsiveness of the aging fleet. The ANG Weapon Systems Sustainment Working Group outlined the following maintenance concerns regarding legacy system sustainment and shortfalls.

**Support and Test Equipment:** Currently, the ANG relies on outdated test equipment to sustain an aging fleet of aircraft that frequently breaks and incurs high maintenance costs. This has a direct impact on aircraft availability. Updating to digital replacements for test equipment items will enable maintenance personnel to troubleshoot and repair aircraft in a fraction of the time required by older methods.

While some support equipment modernization has been completed in recent years, the majority of aircraft support equipment was designed and built in the 1970s and 1980s and is not on par with current technology. Legacy equipment remains labor intensive and costly to operate, regularly presenting significant safety concerns. The ANG continues to explore innovative solutions to these challenges by working with industry partners to find off the shelf solutions that consolidate multiple functions, are more efficient to operate, and enhance maintenance efficiency and safety.

#### **e. Isochronal (ISO) Maintenance and Inspection Stands and Cranes**

Aircraft maintenance stands enable our Airmen to properly inspect aircraft and complete maintenance actions in a safe, reliable manner—ultimately maximizing aircraft availability and mission capability rates. Additionally, our Airmen require flightline crane/hoist capabilities to complete critical equipment maneuvers such as engine and propeller replacements in an efficient and safely repeatable manner. Unfortunately, many of the ANG's aircraft units are faced with using inspection stands or equipment that fall short of meeting today's Air Force Occupational Safety and Health or Occupational Safety and Health Administration standards.

However, since the last report, there have been several noteworthy successes in these areas. For example, a contract for four C-17 maintenance stands was awarded and has resulted in delivery of a first trial kit in June 2022 to the 167th Airlift Wing, Martinsburg, WV. Three remaining C-17 maintenance stands are anticipated for delivery in 2023. Additionally, there was a contract award for three KC-135 maintenance stands which also achieved a successful milestone with a delivery of the first stand to the 141st Air Refueling Wing, Spokane, WA. Two additional KC-135 maintenance stands are on track for delivery in late 2022. Beyond C-17 and KC-135 units, the ANG also had success in awarding a contract to field three new inspection capabilities to support C-40 aircraft maintenance at the 113th Maintenance Squadron (DC Guard). Two inspection lifts have been delivered with a third capability anticipated for delivery in FY 2023. Going forward, to meet outstanding requirements, the ANG is pursuing plans for four F-22 inspection stands estimated to cost \$2 million to fill this maintenance capability gap at the 154th Wing in Honolulu, HI. Alongside maintenance stand contract awards, the ANG successfully negotiated a contract award for crane/hoist/sling capabilities to support engine removal/replacement actions spanning a multitude of ANG C-130, KC-135, and MQ-9 units.

#### **f. Aircrew Flight Equipment (AFE) Sustainment Issues**

As the only maintenance-type function located within the Operations Group, AFE is caught between funding lines and often left off budget requests. Major programs listed below such as F-15, F-16, and A-10 are getting upgraded with 3-D audio and Joint Helmet-Mounted Cueing Systems that fall directly into AFE management once procured. As a result, AFE is left with the burden of sustaining this equipment. As more AFE-serviced items become locally purchased, the Cost per Flying Hour funds for locally purchased support to the flying squadrons are becoming limited.

Aircrew Chemical Defense is the largest AFE program across all manned aircraft. This program directly ties to the readiness rating of these units within the ANG Enterprise. This program has historically been underfunded both for direct funding from the Program Element (PE) and for sustainment funding. The lack of funding affects readiness and the ANG's ability to support CNGB goals.

To mitigate the challenges of managing the Aircrew Chemical Defense program, the ANG's use of a module of the Defense Property Accountability System (DPAS), which the ANG calls the Aircrew Flight Equipment Resource Management System, allows for the accurate tracking of flight crew equipment. Rather than relying on data calls for expiring equipment, NGB can track expired and expiring items across the enterprise for the current year and 6 years forward. The ability to track and project specialized Aircrew Chemical Defense equipment shortages is critical to ensuring aircrew readiness is properly sustained.

With the increased highlight of the AFE program shortfalls in all areas, the creation of a standalone NGB AFE PE is under consideration. This would allow for dedicated funding to sustain the programs and ensure alignment with CNGB-stated priorities.

#### **g. Modernization Programs and Shortfalls**

ANG documented \$9 billion in critical capability shortfalls through its Air Reserve Components (ARC) Weapons and Tactics Council (WEPTAC) and ANG Domestic Capability Priorities (DCP) programs. Because of these acute shortfalls, ANG modernization programs use innovative acquisition strategies to build a more lethal force for the war fight and homeland and provide current equipment for first responders during domestic emergencies. The annual ARC WEPTAC and DCP Conferences remain the starting points for ANG modernization efforts.

At the virtual 2022 ARC WEPTAC, field operations, maintenance, and support experts across ANG identified and vetted critical shortfalls collaboratively with headquarters staff-level functional area managers. This process included a review of C2; cyber; intelligence, surveillance, and reconnaissance (ISR); training and simulator systems; and weapons delivery, airlift, and tanker platforms. Identified capability shortfalls are documented in the annual Weapons Systems Modernization Priorities book. **The 2022 Modernization Book documented an \$8.4 billion shortfall for modernizing and**

**recapitalizing the ANG aircraft fleet and associated equipment. The top three modernization priorities for 2023 are Digital Electronic Warfare Suite modernization for the F-16, Multi-spectral Advanced Data Link for the F-15, and C-130H Self-protection capability.**

The DCP Conference identifies and prioritizes capability shortfalls for federal and non-federal support of civil authorities during a domestic emergency. The conference is organized by functional areas to mirror the National Response Framework and aligns requirements with the CNGB's core capabilities. The output from this conference is published in the annual ANG DCP Book. The 2022 DCP book identified \$510 million in capability priorities. The Spring of 2022 DCP followed the same model as the ARC WEPTAC, with most of the working groups meeting virtually.

The ANG Modernization Book and the Domestic Capability Priorities Book, available at <http://www.ang.af.mil/Home/ANG-Priorities-Books/ANG>, illustrates how the ANG leveraged NGREA to modernize 30 weapons systems and mission areas and to procure equipment for ANG domestic operations (covering 11 of 15 Emergency Support Functions). Priorities for future modernization include aircraft sensors, legacy cockpit upgrades (communications/datalink), aircraft defensive system upgrades, simulators, and Special Warfare equipment. Priorities for equipment supporting domestic operations include equipment for first responders; C2 equipment; emergency mobile medical facilities; Chemical, Biological, Radiological, Nuclear, and High-yield Explosives response equipment; and urban search and rescue equipment.

The following paragraphs highlight the modernization efforts undertaken by the ANG and some of the critical shortfalls, each arranged by mission type with individual associated weapons systems broken out in detail.

#### **h. Combat Aircraft**

**A-10C:** The ANG's 84 A-10C aircraft provide 32 percent of the total Air Force fleet and are the premier close air support aircraft. ANG aircraft have the helmet-mounted integrated targeting modification, which drastically reduces the time required to acquire targets. This ultimately increases survivability and lethality. ANG A-10 aircraft are equipped with two ARC-210 radios, giving them a unique capability to simultaneously communicate via secure line-of-sight and beyond-line-of-site (BLOS). These dual radios extensively contribute to combat search and rescue (CSAR) mission success. One A-10 modernization priority is a high-resolution center display that shows pilots the high-definition picture provided by targeting pods, which improves A-10 pilots' ability to positively identify friendly forces and helps search for, identify, surveil, and track enemy personnel. Additional upgrades include an integrated, noise-cancelling, three-dimensional (3-D) cockpit audio system, and an anti-jam embedded Global Positioning System (GPS).

- Total Unfunded Modernization Shortfall: \$90.4 million. This reduction from the previous year's \$115.5 million results from completing a significant amount of non-recurring engineering needed for systems integration.
- High Resolution Display Systems (HRDS): Installs a more capable system that enables full utilization of targeting pod improvements, enabling visual identification of friendly and enemy forces from greatly increased standoff ranges—\$44 million shortfall; 3-year fielding timeline if fully funded. This reduction from \$54 million the previous year results from reductions in non-recurring engineering.
- Second Gigabit Ethernet Switch: Installs a system that expands Ethernet capability to 22 ports to support the requirements for the HRDS upgrade—\$8.9 million shortfall; 2-year fielding timeline if fully funded.
- Conversion Fuel Tank: Modifies current excess F-15 external fuel tanks to improve range, loiter time, and G-rating—this requirement is fully funded and awaiting a production contract through NSPA.
- 3-D Audio: Installs a noise-cancelling system that increases situational awareness by spatially separating aural warning and radio signals, providing angular cueing to ground and air threats—\$10.4 million shortfall; 3-year timeline if funded.
- Selective Availability Anti-Spoofing Module Embedded GPS/Inertial Navigation System: Installs a system that will improve navigational accuracy in a GPS-denied environment—\$27.1 million shortfall; 3-year timeline if funded. This reduction from \$32 million the previous year results from reductions in non-recurring engineering and the completion of several test and integration projects.

**F-15C:** The F-15C Eagle has been the backbone of the nation's Air Superiority fleet for over 30 years and will continue to be a key asset. The ANG's 137 F-15C/D aircraft provide 58 percent of the F-15C/D fleet, and CONUS units provide 31 percent of the nation's Aerospace Control Alert assets, spanning five alert sites and providing 24-hour homeland defense. Modernization and sustainment programs are vital to improve aircraft capabilities for overseas contingency operations and homeland defense. These upgrades recapitalize and repair long-range combat identification and air superiority "kill chains" while drastically increasing survivability in contested environments. These programs include the AESA radar, multi-spectral search and track technologies, electronic warfare and self-protection, a modern integrated cockpit, and next generation air-to-air weapons technology. The Air Force identified and validated defensive shortfalls in the F-15C Electronic Warfare (EW) capability. Previous efforts to modernize the EW system were cancelled, leaving the F-15C with no current or planned EW systems. Modernization efforts are underway to increase vehicle interoperability with 5th generation platforms and to increase pilot safety.

- Total Unfunded Modernization Shortfall: \$194 million
- Data Link Interoperability: ANG F-15s require full secure data link interoperability to ensure safety-of-flight, continued lethality during combat operations, and effective

C2 during homeland defense missions. ANG has not allocated NGREA to fund this effort.

- The rapid advancement in enemy threat weapons has degraded the F-15C's ability to retain first launch and first kill opportunities. Therefore, air dominance F-15C aircraft require the ability to carry and employ the latest air-to-air weaponry to remain viable in today's high-end fight and to protect the homeland. The F-15C's Operational Flight Program must be amended to support the latest air-to-air weapons. There is a \$128 million shortfall not funded in the FYDP.
- Full-Spectrum EW Capability: F-15s require a full-spectrum EW suite that autonomously and automatically detects, identifies, and locates radio frequency threats.

F-15C has been without FULL datalink interoperability since the start of 2022 due to modern upgrades/installs. This will keep one of the primary ACA assets without the ability to locate, track, and identify targets of interest without fighter datalink. Current funding is for testing and initial article purchase.

- Multi-Spectral Search/Track/Identification/Target: Comprises an enhanced Electronic Warfare Warning Set (EWWS), Infrared Search and Track (IRST), and Tactical Electronic Warfare System (TEWS). They will supplement onboard threat detection, identification, and tracking. Current efforts leave the program of record unfunded in the FYDP.
- Cockpit Modernization: The F-15C cockpit requires modernization to fully capitalize on network-centric operations and increase safety—\$66 million shortfall not funded in the FYDP; 3-year timeline if funded.
- High-Fidelity DMO Capable Simulators with Updated Threat Replication: F-15s require the ability to participate in networked, high-fidelity simulators with a wide variety of aircraft types and squadrons around the globe in real-time against modern threats. Current effort is not funded in the FYDP.

**F-16:** The ANG's 320 F-16C/D aircraft provide 35 percent of the total Air Force fleet and fulfill many of Allied Air Command's precision-guided munitions and close air support taskings, including convoy escort, dedicated infrastructure defense, border patrol, and raid support. ANG aircraft also make up 56 percent of the nation's Aerospace Control Alert fighter force.

Modernization efforts are underway to improve ANG F-16s by fielding affordable systems with secure line-of-sight and BLOS communication suites, smart displays with data processing capability, advanced helmet-mounted target cueing for air and ground weapons employment, enhanced self-protection suites, and improved radar performance and reliability.

- Total Unfunded Modernization Shortfall: \$650 million

- **AESA Radar:** AESA radars provide the capability to detect and track multiple airborne targets of interest in dense civilian air traffic environments. AESA radars will improve the capability of ANG F 16s to perform close air support, surface attack, and defensive counter-air. Air Combat Command (ACC) is programming upgrades for post-block F-16s. The remaining pre-block F-16s are covered through a \$150 Congressional plus-up.
- **Pre-Block F-16 Advanced Integrated EW Suite:** Rapidly adaptable, automated, and digital electronic warfare suite capable of detecting, precisely geolocating, protecting from, and attacking modern radio frequency and infrared threats—\$447.3 million shortfall not funded in the FYDP.
- **3-D Audio:** F-16s require simultaneous secure line-of-sight and three-dimensional audio noise-cancelling system that increases situational awareness by spatially separating aural warning and radio signals, providing angular cueing to ground and air threats—\$30 million shortfall not funded in the FYDP.
- **Advanced Targeting Pod:** F-16s require a center display unit, including modern multifunction displays to transfer high-definition digital pod displays to ground controllers—\$40 million shortfall not funded in the FYDP.

### **Mobility Aircraft**

**C-130H:** With a legacy lasting over 65 years, the C-130 Hercules remains the U.S. Military's primary tactical airlift aircraft. In addition to its primary role, ANG C-130s support humanitarian, peacekeeping, and disaster relief operations. Procurement efforts continue to address needed updates to the avionics suites, propulsion modernization, improved self-protection, and enhanced situational awareness. These improvements ensure that the ANG C-130 fleet remains capable of safely and effectively executing its missions globally and maintains relevancy in tomorrow's fight.

The ANG's 91 C-130H aircraft provide 34 percent of the total Air Force fleet. C-130H aircraft safety and compliance requirements are being addressed via the Avionics Modernization Program, AMP2. Upgrades include Communication, Navigation, and Surveillance/Air Traffic Management, Automatic Dependent Surveillance-Broadcast, and a digitized glass cockpit. To date, 2 test aircraft of the ANG's 91 C-130H aircraft have been upgraded.

- **Total Unfunded Modernization Shortfall:** \$1.5 billion
- The ANG C-130H fleet requires a common carry open-architecture mission pod capable of enhancing survivability in contested environments. Mobility Air Forces (MAF) C-130H aircraft have an inadequate ability to detect, degrade, and defeat infrared (IR) man-portable air defense systems (MANPADS). The Block 30 AN/AAQ-24 Large Aircraft IR Countermeasures (LAIRCM) system improves detection against advanced MANPADS threats and degrades the enemy's ability to engage C-130H aircraft. To survive in modern combat, C-130H aircraft require a radar warning receiver (RWR) with geolocation ability that is capable of processing signals in a dense radio frequency (RF) environment and automatically directing

countermeasures to defeat those threats—\$809 million shortfall not funded in the FYDP; 5-year timeline if funded.

- The C-130H fleet is bringing performance and fuel savings initiatives to production with a 3.5 engine upgrade while digitizing the electronic propeller controller system (EPCS) and upgrading propeller performance to a modernized, high performance eight-bladed propeller (NP-2000). Thanks to congressional adds, 34 ANG aircraft are now equipped with the EPCS/NP2000 upgrade, and 33 aircraft are now equipped with the 3.5 engines. NP2000 does not require additional funding to purchase kits and installs, but \$148 million is required in FY 2025/FY 2026 to cover the Interim Contract Support effort. The 3.5 program still requires \$40.2 million to purchase the 20 remaining kits and complete 27 more installs. C-130 propulsion improvements are the top priority for the ANG—\$188.2 million shortfall not funded in the FYDP; 3-year timeline if fully funded.
- The ANG C-130H fleet requires avionics and training systems modernization. The C-130H faces severe sustainment challenges with current avionics and cockpit instrumentation, and will be out of compliance with the Communications, Navigation, and Surveillance/Air Traffic Management 2020 mandate if not modernized. Additionally, tactical night operations continue to suffer with lighting that is not night vision imaging system (NVIS)—compliant. To eliminate critical sustainment issues caused by diminishing manufacturing sources and material shortages (DMSMS) this modernized cockpit will include improvements in automatic dependent surveillance-broadcast (ADS-B) and NVIS compatibility, as well as a modern flight management system with GPS approach and polar navigation capabilities. An NVIS-compatible and modernized glass cockpit with a digital overhead panel reduces crew workload, lowers maintenance costs, and increases capability and sustainability to operate safely at night. The \$592.5 million shortfall is not funded in the FYDP; 5-year timeline if funded.

**C-130J:** The ANG's 40 C-130J aircraft provide 15 percent of the total Air Force C-130 fleet and support not only its wartime mission, but also peacekeeping, humanitarian, and disaster relief operations. The C-130J is the newest addition to the combat delivery fleet, but still requires incremental modernization to ensure fleet viability throughout its useful life.

- Total Unfunded Modernization Shortfall: \$475 million
- C-130J Support Equipment: Provides support equipment and initial spares for C-130J ANG units receiving congressional adds of C-130Js. The congressional adds did not include funding for support equipment or spare parts—\$58 million shortfall unfunded in the FYDP; 2-year timeline once funded.
- The C-130J requires a common carry open architecture mission pod capable of producing mission enhancement effects in ever-changing contested environments. The common carry pod will include self-protection and will be designed to accept future enhancements to protect the aircraft from emerging threats. To increase operational effectiveness in a hostile environment, the C-130 community has identified Large Aircraft Infrared Countermeasures Block 30 as the most effective



measure against man-portable air defense systems. To counter radar threats, the C-130J requires an upgraded digital RWR (ALR-69A) to defeat current and future radar threats—\$93 million shortfall unfunded in the FYDP; 5-year timeline once fully funded.

- ANG C-130Js require integrated battlespace awareness in the form of Real Time Information in the Cockpit (RTIC). RTIC with Link-16 provides a tactical data link (TDL) to ensure the C-130J fleet has access to the common operating picture. RTIC is vital for sending and receiving threat information BLOS. Additionally, RTIC and self-protection systems need a fusion mechanism to effectively display ground- and air-based threats (Advanced Integrated Electronic Combat Suite)—\$154 million shortfall unfunded in the FYDP; 4-year timeline once fully funded.
- C-130J aircrews require the ability to train in a GPS denied/degraded environment. A deception-based GPS jamming option is required to accurately reflect scenarios that are not simply GPS denied environments—\$2 million shortfall unfunded in the FYDP; 3-year timeline once fully funded.
- The C-130J requires a replacement for its current radar. The current APN 241 radar faces severe sustainment challenges and requires a refresh to a fully digital advanced electronically scanned array. A new radar will allow the C-130J aircrew to conduct accurate combat aerial delivery in contested environments while also allowing the aircrew to detect adversary airborne threats—\$120 million shortfall unfunded in the FYDP; 8 year timeline once fully funded.

**LC-130H:** The ANG owns 10 ski-equipped C-130Hs. The LC-130H operates on snowfields in remote areas of the polar regions to support the National Science Foundation (NSF), supporting national security requirements in the Arctic region. The ANG LC-130H fleet requires updated avionics to ensure continued global airspace access. LC-130Hs face severe sustainment challenges with current avionics and cockpit instrumentation if not modernized. Additionally, tactical night operations continue to suffer without NVIS-compliant lighting. To eliminate critical sustainment issues caused by DMSMS and to meet required mandates and AFIs, this modernized cockpit will include a multifunction EIDS, automatic dependent surveillance-broadcast capability, NVIS compatibility, and a modern flight management system with GPS approach and polar navigation capabilities. Updated avionics address CNS/ATM mandates and increase operational efficiency by opening airspace routes with stringent navigational requirements and allowing the use of GPS approaches. The LC-130 is part of the current Air Force C-130H avionics update program and the ANG continues to emphasize the importance of this program, so it will receive priority on the upgrade schedule and ensure the aircraft can meet its mission requirements.

- Total Unfunded Modernization Shortfall: \$8.2 million
- ANG LC-130Hs require a robust, secure TDL. TDL provides a C2 link and maximizes aircrew situational awareness with BLOS capabilities—\$2.2 million shortfall unfunded in the FYDP; 3-year timeline once fully funded.

- RTIC with Link-16 provides a TDL, to ensure the C-130H fleet has access to the common operating picture. RTIC is vital for sending and receiving threat information BLOS—\$6 million shortfall unfunded in the FYDP; 3-year timeline once fully funded.

**C-17:** The 50 ANG C-17s provide 23 percent of the total Air Force C-17 fleet. The C-17 is the go-to workhorse for AMCs global airlift mission. The C-17 must be modernized to keep this aging aircraft safe and relevant in tomorrow's high-end fight. To perform Rapid Global Mobility in a peer and near-peer threat environment, the ANG C-17 fleet requires self-defense capabilities to detect and defeat modern threats. To accomplish this, C-17s require an open mission system digital backbone to enable processing at the forward edge and integration into the Joint All Domain Command and Control architecture. It also requires access to high-speed global data for tactical and strategic situational awareness and to enable Mission Command for mobility forces and a cloud-based mission management suite to guarantee worldwide access to secure mission planning and communication.

Most missions flown by ANG C-17s are in areas posing a significant electronic threat with no dedicated off-board assets to provide detection or protection. The C-17 fleet does not currently have an on-board capability to detect or defend against electronic threats. To survive in modern combat, C-17 aircraft require an RWR capable of processing signals in a dense radio frequency environment and automatically directing countermeasures to defeat those threats. This capability enables C-17s to detect and defend against electronic threats in the likely scenario that the aircraft is operating independently.

- Total Unfunded Modernization Shortfall: \$511 million
- The C-17 requires a common carry open architecture mission pod capable of producing mission enhancement effects in ever-changing contested environments. The common carry pod will include radio frequency self-protection and will be designed to accept future enhancements to protect the aircraft from emerging threats. To counter radar threats, the C-17 requires a new digital RWR to defeat current and future radar threats—\$359.5 million shortfall unfunded in the FYDP; 5-year timeline once fully funded.
- ANG C-17s require secure airborne data communications with other aircraft, C2 agencies, and ground-based forces. The MAF mission computer data link and data transfer capabilities provide aircrew the ability to report and receive battlespace information such as the position of other aircraft, weather, threat, mission events, mission status, task completion, and resource status. This increased situational awareness allows C2 agencies to track mission progress and facilitate rapid decisions and adjustments during mission execution. These improvements include an integrated data link, upgraded satellite communications, an electronic flight bag, and onboard capability to access secure and unsecure internet data—\$170 million shortfall unfunded in the FYDP; 4-year timeline once fully funded.

- ANG C-17s require additional aircraft installations of the Extended Range (ER) fuel tank modification. Currently, 19 ANG C-17s are limited in range without this critical enhancement. ER tanks will allow the aircraft to fly an additional 1,800 nautical miles, reducing the need for fuel stops, enabling faster cargo delivery, and reducing wear and tear on the aircraft caused by excess takeoffs and landings—\$228 million shortfall unfunded in the FYDP; 5-year timeline once fully funded.
- ANG C-17s require a maintenance computer to monitor, record, and share aircraft database information to enable Conditions-Based Maintenance and provide interfaces for aircraft mission systems. The ANG C-17 fleet has limited ability to capture aircraft system data in flight and provide maintenance personnel the ability to troubleshoot issues. A common maintenance computer will enhance aircraft availability and save thousands of hours of manually troubleshooting issues—\$15 million shortfall unfunded in the FYDP; 2-year timeline once fully funded.

**C-40:** The ANG's three C-40C aircraft provide 21 percent of the fleet and provide worldwide distinguished visitor transportation for Congressional, DoD, Air Force, and National Guard missions. The primary mission of the C-40 is to ensure passenger safety and comfort while providing the utmost in reliability.

- Total Unfunded Modernization Shortfall: \$67 million.
- To enhance C-40 employment capabilities during worldwide operations, ANG C-40Cs require a high-speed data system for seamless, worldwide satellite-based communications and internet connectivity to enable the C-40C fleet to meet time-critical and persistent passenger mission requirements—\$25 million shortfall unfunded in the FYDP; 2-year timeline once fully funded.
- ANG C-40Cs require an upgraded Aircraft Communication Addressing and Reporting System and Controller Pilot Data Link Communications for data-link systems to send messages between an aircraft and an operator's ground base through VHF, HF, and SATCOM links—\$13.5 million shortfall unfunded in the FYDP; 2-year timeline once fully funded.
- ANG C-40Cs require satellite-based augmentation systems to ensure travel anywhere in the world at any time. The C-40 does not currently possess the ability to fly GPS approaches to localizer minimums. Wide Area Augmentation System/Localizer Performance with Vertical Guidance increases safety with tighter navigation tolerances and increased capabilities, including lower approach minimums—\$10.5 million shortfall unfunded in the FYDP; 2-year timeline once fully funded.
- ANG C-40Cs require upgraded Large Aircraft Infrared Countermeasure Systems (LAIRCM).

C-40Cs rely on the LAIRCM system for self-defense in contested airspace. The current LAIRCM system requires replacement by 2025 because of obsolescence issues—\$18 million shortfall unfunded in the FYDP; 2-year timeline once fully funded.

**KC-135:** The KC-135 Stratotanker is Air Mobility Command's primary air refueling platform, providing approximately 87 percent of air refueling in support of U.S., allied, and coalition military aircraft. The ANG's 164 KC-135 aircraft provide 44 percent of the total Air Force fleet. The KC-135 is tasked to operate close to high-threat areas. Defensive systems are necessary to prevent shoulder-fired surface-to-air missile systems from destroying aircraft during takeoff, landing, and low altitude flight over mountainous terrain. TDL technologies and situational awareness displays that bring real-time threat information and secure radio capability greatly enhance KC-135 air refueling, airlift, and aeromedical evacuation missions.

- Total Unfunded Modernization Shortfall: \$569 million with some costs savings over last year based on updated estimates.
- The KC-135 requires a common carry open architecture mission pod capable of producing mission enhancement effects in ever-changing contested environments. The common carry pod will include radio frequency self-protection and will be designed to accept future enhancements to protect the aircraft from emerging threats—\$166 million shortfall unfunded in the FYDP; 5-year timeline once fully funded.
- To safeguard against man-portable air defense systems, the ANG is leading the integration of the LAIRCM system. All 164 ANG KC-135s will be modified with Group A wiring kits. The ANG funded 80 Group A kits and installations. The ANG also funded procurement of 27 of the required 38 LAIRCM Group B pods—\$181 million shortfall remains unfunded in the FYDP; 4-year timeline to complete the fielding once funded.
- The RTIC situational awareness system will provide a baseline for future growth to establish the KC-135 as a data relay platform when equipped with Link-16 and TDL. Two RTIC units were installed and successfully demonstrated this past year. There are 162 remaining ANG KC-135s that require modernization—\$148 million shortfall unfunded in the FYDP; 4-year timeline to install these units once funded.
- ANG KC-135s require cockpit and cabin cooling during ground and low-level operations. Temperatures at deployed locations routinely result in cockpit temperatures of 140° F and cargo compartment temperatures of 170° F. Aircrews generally spend more than 1 hour in these conditions, which is not conducive to mission accomplishment. Ground cooling carts are the primary method for temperature reduction. Ground cooling carts are removed before engine start and are not usable if mission delays occur. Roll-on/roll-off vapor cycle air conditioning units placed onboard can provide ground cooling—\$7 million shortfall unfunded in the FYDP; 2-year timeline once fully funded.
- ANG KC-135s require an automated hardened position, navigation, and timing (PNT) system integrated into the existing navigation equipment. ANG KC-135s fulfill almost 70 percent of the nuclear refueling mission. KC-135s require the ability to navigate oceanic airspace in a post-strike environment where traditional navigation aids and satellites are not available. Astro-inertial navigation systems provide the greatest accuracy and a bounded position error over an extended use-time and

distance. These systems are autonomous, passive, non-jammable, and automatic. All 164 ANG KC-135s require automated, hardened PNT systems—\$37 million shortfall unfunded in the FYDP; 3-year timeline once fully funded.

- ANG KC-135s require portable aircraft-powered ground transfer fuel pumps to onload/offload fuel in an adaptive basing scenario or forward deployed environment where ground support is unavailable. This capability provides combatant commanders with greater flexibility staging KC-135s during contingency operations, natural disasters, and humanitarian support operations—\$13.6 million shortfall unfunded in the FYDP; 2-year timeline once fully funded.

#### **i. Rescue and Special Operations Aircraft**

**HC-130J:** The ANG's 12 HC-130J aircraft provide 34 percent of the total Air Force fleet. The HC-130 is the rescue mission variant of the C-130. ANG HC-130 units continue to deploy in support of overseas contingency operations and provide emergency rescue and relief support during domestic operations. The ANG has finished recapitalization to the HC-130J.

- Total Unfunded Modernization Shortfall: \$343 million
- Joint TDL: ANG HC-130Js require the integration of multiple radios, data links, rescue devices, and defensive systems to keep the primary focus on safe and successful mission accomplishment and not electronic management. Multiple unintegrated efforts to upgrade technology have resulted in a task-saturated workload for HC-130 aircrews— \$32 million shortfall; 3-year timeline once funded.
- Onboard secure global network connectivity: ANG HC-130Js require secure, continuous, onboard connectivity over wide-band BLOS systems. As the CSAR coordinator role is advancing as an HC-130J capability, the requirement to communicate securely BLOS with multiple assets is critical. Currently, the HC-130J must rely on an outdated BLOS voice communication radio to receive and pass critical survivor information from C2 sources, delaying the recovery effort—\$18 million shortfall is not funded in the FYDP; 3-year timeline if funded.
- Precision geolocation and identification of isolated personnel: ANG HC-130Js require the ability to carry mission-specific capabilities including data link, sensors, communications, video downlinks, and electronic warfare payloads on external hard points without detrimental effects to baseline aircraft capabilities, specifically aerial refueling. Wing mounted sensors for isolated personnel search and identification— \$74 million shortfall not funded in the FYDP; 2-year timeline if funded.
- Increased survivability in contested environments: ANG HC-130Js require a robust self-defense capability to perform combat rescue in a hostile environment in a peer-to-peer conflict. To operate in a high threat environment, the HC-130J requires an RF jammer and digital RWR for improved radar detection capability and must leverage improving technology to incorporate the newest chaff expendables to defend against a radar guided threat. Federated RWR and radio frequency jammer capability—\$175 million shortfall is not funded in the FYDP; 3-year timeline if funded.

**j. Command, Control, Intelligence, Surveillance, and Reconnaissance (C2ISR)**

**Air Operations Centers (AOCs):** The ANG's seven AOCs provide 54 percent of the total Air Force number. The AOC weapon system is employed by the Joint Forces Air Component Commander (JFACC), facilitating operational control and direction of theater air, space, and cyber forces. The Air National Guard AOC and Air Force Forces (AFFOR) staffs comprise personnel and facilities postured to support Homeland Defense, Overseas Contingency Operations, and Defense Support of Civil Authorities (DSCA). AOC personnel are organized as divisions specializing in integrated, distributed C2 processes and products. The AFFOR staff is organized as special and functional directorates that provide planning teams to the Commander, Air Force Forces to support the JFACC.

- Total Unfunded Modernization Shortfall: \$81 million
- Weapon System Modernization. ANG Air Operations Center (AOC) units require the modernized Block 20 Falconer Weapon System to maintain readiness with the impending termination of the current 10.1 Weapon System. The absence of an Air Reserve Component (ARC) Block-20 AOC weapon system fielding plan will significantly detriment the ARC's ability to provide the support that aligned AOCs depend on for combat mission ready (CMR) manning and distributed multi-domain operations (MDO). The current plan does not include fielding hardware to functional AOCs or ARC Air Operations Groups (AOG). Instead, ARC units are expected to access the weapon system strictly through the Cloud environment with no consideration for an external network outage. The planned approach presents multiple challenges to ARC AOGs combat mission readiness/operational training, ongoing distributed operations, and effective reach-back capability for aligned geographic AOCs. It presents a risk to the mission because an ARC AOG unit's access to the cloud may be degraded in a conflict where the cyber-enabled environment is contested or degraded. Program Action Directive 10-2 directs ARC units to train to the same standard as their aligned active-component AOC, requiring ARC-aligned systems to match as closely as possible. The current plan to field Block-20 Weapon System hardware only to active-component AOCs is inconsistent with this guidance, presenting a risk to readiness and potential risk to mission during operations necessitating Distributed Operations, Split Operations, Reach-Back, and Continuity of Operations (COOP). The six ANG AOCs require one Block-20 Lite AOC-Weapons System each, consisting of scaled down hardware and software to directly support aligned AOC requirements for CMR augmentation and distributed operations—\$18 million shortfall not funded in the FYDP; 3-year timeline if funded.
- Agile Operations Center: ANG Air Operation Groups (AOG) require modernization of the operation center infrastructure to increase operator efficiency, expedite decision-making, and accommodate the Joint All Domain Command and Control and the Advance Battle Management System. The Agile Operations Center accomplishes this using a video matrix fusion engine, solving multi-classification issues on operation floors. The Agile Operations Center covers front end information technology, including passive infrastructure, integrated furnishings systems, audio, visual, keyboard, video, and mouse switch, telephony, and video matrix technology.

Additional items include backend active infrastructure. Agile Operations Center technology delivers continuous infrastructure and enhances decision-making for homeland defense performance at the speed of relevance, which is not possible with the current infrastructure. An upgraded Agile Operations Center decreases decision-making from minutes to seconds. Six ANG AOCs require an upgraded Agile Operations Center—\$60 million shortfall not funded in the FYDP.

- **Secure Voice Capability:** ANG AOC units require the capability to communicate directly via radio to supported commanders, fielded units, and state emergency agencies. ANG AOCs need a modernized secure core radio package (CRP), a Mobile User Objective System tactical satellite-compatible radio, a high-frequency (HF) radio, antenna systems, and radio-to internet protocol (IP) bridge and communications security equipment. AOC units must train and operate on the same systems as their supported active component AOCs. Without these capabilities, units cannot train or execute to full mission requirements. ANG AOCs require five CRPs, HF radios, and IP bridges—\$3 million shortfall not funded in the FYDP.

**Battle Control Centers (BCCs):** The ANG's four BCCs, located in Alaska, Hawaii, Washington state, and New York, provide 100 percent of the total Air Force capability. The BCC operations force includes four ARC operations groups and squadrons. BCCs support North American Aerospace Defense and Northern Command as part of the homeland defense mission, DSCA, and search and rescue. BCCs provide 24/7 aerospace surveillance, warning, control, and maritime warning in defense of North America.

- **Total Unfunded Modernization Shortfall:** \$12 million
- **National Capital Region Camera Modernization:** ANG BCCs require a modernized Enhanced Regional Situational Awareness (ERSA) System at the Joint Air Defense Operation Center to provide continuous support of the BCC mission. This system includes all-weather, high-definition EO/IR sensors; a network architecture that transmits high-definition sensor imagery in its native format; and an improved ERSA user interface—\$11 million shortfall not funded in the FYDP; 2-year timeline if funded.
- **Network Radio Gateway:** ANG Pacific Air Defense Sector (PADS) requires radio over internet protocol (RoIP) capability to directly access remote multi-function, secure, anti-jam, beyond line-of-sight and line-of-sight radios, internet protocol phones, and land mobile radios from multiple locations to meet evolving mission requirements. RoIP push-to-talk capabilities provide resilient communications using internet connections, satellite, LTE, or private networks that can be controlled from fixed or distributed locations. The system is scalable to meet current and future needs, including contingency operations solutions. RoIP improves interoperability with joint forces and facilitates effective Battle Management C2. Communicating by voice and data link with joint air and integrated air and missile defense assets enables PADS to effectively orient and pair aircraft, solve problems, speed decisions, and bring order to the battlespace. This capability is critical to execute C2

operations in the PADS area of operations—\$1 million shortfall not funded in the FYDP.

**Control and Reporting Centers (CRC):** The ANG's 10 CRCs provide surveillance, tactical communications, data links, and combat-related air battle management of joint air operations with real-time networked situational awareness. The CRC, at the operational and tactical levels, provides surveillance, tactical communications, data links, and combat-related air battle management of joint air operations with real-time networked situational awareness to support Active Duty and ANG missions.

- Total Unfunded Modernization Shortfall: \$26 million
- Integrated Mode 5/ADS-B: ANG CRCs require the capability to interrogate Mode 5 and access ADS-B data to complete an identification matrix organically—\$11 million shortfall not funded in the FYDP; 3-year timeline if funded.
- Remote Radar and Radio Access: ANG Control and Reporting Centers (CRC) require a Remote Radar and Voice Communications (RRVC) integration package to execute specialized live-fly missions. This capability is needed to maintain proficiency and remain CMR. The RRVC capability would provide a first-time capability to control various types of live-fly missions remotely from each CRC unit, resulting in a significant reduction in personnel travel costs to maintain CMR. Each of the 10 ANG CRCs require an RRVC capability to access the Federal Aviation Administration communication and radar feeds to control missions remotely—\$3 million shortfall not funded in the FYDP.

**MQ-9:** The ANG's 12 MQ-9 squadrons provide long endurance intelligence, surveillance, and reconnaissance and strike capabilities for Combatant Commands, executing daily operations in combat zones around the world. Additionally, the ANG hosts two of three USAF MQ-9 formal training units. Of the 14 total units, five units can launch and recover MQ-9 aircraft for formal training unit missions, CONUS-based continuation training and exercise participation, and domestic operations. In FY 2022, the ANG provided 12 of the USAF's 32 blue-suit combat lines and is scheduled to provide the same level of support in FY 2023. In FY 2022, the ANG MQ-9 enterprise maintained the number of CONUS-based continuation training sorties to support readiness levels for all ANG MQ-9 units and three USAF MQ-9 combat units. In FY 2022, the ANG MQ-9 Enterprise participated in five CONUS and three OCONUS exercises, resulting in approximately 2,000 total flight hours.

- Total Unfunded Modernization Shortfall: \$194.2 million
- Command and Control Resiliency: ANG MQ-9 aircraft require an upgrade to the existing satellite communications (SATCOM) equipment used for C2 and payload dissemination. The current SATCOM set up does not allow the MQ-9 to continue to provide the effects required by the joint force. Transitioning C2 and payload dissemination to satellites in low earth orbit will provide the increased resiliency and data throughput to drastically change the way MQ-9s are employed. Additional beyond line-of-sight connections and capabilities, including mesh networks,



minimum latency datalinks, and Manned-Unmanned Teaming will provide further resiliency for command and control and allow the MQ-9 to be an edge node for connecting other players within the larger Joint Force communications network. Twenty-four ANG MQ-9 aircraft will require upgraded C2 communications equipment—\$6 million not funded in the FYDP; 3-year timeline once funded.

- ANG MQ-9s require an upgrade to the Multi-Spectral Targeting System (MTS) for deep-look, find, and fix effects. The current electronics unit (EU) for the MTS is outdated and is the limiting factor in improving the capabilities of the MTS. The intelligent electronics unit (iEU), using Sensor Open Systems Architecture compliant hardware, provides the computational power to dramatically improve combat identification and enable artificial intelligence/machine learning algorithms to run on the sensor data inside the MTS. This iEU upgrade provides a significant improvement in the MQ-9s passive find/fix capability, filling one of the Combat Air Force's critical capability gaps in that area. Militarized systems in emission control or highly mobile systems executing emit-and-move tactics are still susceptible to passive find/fix tactics utilized by the MQ-9 MTS. Twenty-four ANG MQ-9 aircraft will require an iEU, with eight spares—\$24 million shortfall not funded in the FYDP; 3-year timeline once funded.
- Ground and Air Based Detect and Avoid Systems: ANG MQ-9 units require both a ground-based and air-based detect and avoid radar solution to meet international airspace due regard rules and host nation restrictions. Additionally, these systems will fulfill Federal Aviation Administration requirements to safely operate within the National Airspace System alongside civilian aircraft. Currently the lack of these capabilities is a barrier to entry to many regions in the world where MQ-9 operations are requested and needed. The ANG requires 3 ground-based systems to enable Agile Combat Employment and 24 airborne detect and avoid systems for ANG MQ-9 aircraft with eight spares—\$100.2 million shortfall not funded in the FYDP; 3-year timeline once funded.
- Air Domain Awareness: ANG MQ-9s are unable to contribute to the air picture for future conflicts. With the refocusing on military efforts away from previous conflicts towards potential larger force on force conflicts, the Air Force needs to recapitalize the existing MQ-9 fleet to help fill critical capability gaps in the current Combat Air Force. The persistent on-station time provided by MQ-9s equipped with Infrared Search and Track (IRST) sensors is a key contributor to the overall air domain picture. The ANG requires 10 IRST sensors for MQ-9s—\$60 million shortfall not funded in the FYDP; 4-year timeline once funded.
- Alternate Position, Navigation, and Timing System: ANG MQ-9s require an alternate position, navigation, and timing (PNT) system integrated into the existing navigation equipment. MQ-9s currently rely on GPS for many aspects of operations and need a redundant system that does not rely on GPS for backup in case of operations in a GPS degraded or denied environment. 10 ANG MQ-9s require alternate PNT systems—\$4 million shortfall not funded in the FYDP; 3-year timeline once funded.

**Cyber and Communications:** Communications and Cyberspace enable every Air Force core mission: Air & Space Superiority, Rapid Global Mobility, Globally Integrated

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ISR, Global Strike, and Command and Control. Cyberspace operators enable these missions by building, operating, and defending a robust Enterprise IT network that will enable Advanced Battle Management System (ABMS) and Joint All Domain Command and Control (JADC2). The same enterprise also enables Airmen to efficiently and effectively execute the basic administrative functions that deliver wartime capabilities.

**Cyberspace Operations:** The ANG has three Cyber Operations (CO) Groups, one Operations Support Squadron, and 17 Cyber Operations Squadrons (COSs) postured that support a variety of cyber missions to include offensive cyber, cyber deterrence, and cyber defense.

- Total Unfunded Modernization Shortfall: \$24 million
- Cloud Cyber Operations Platform (CCOP): The CCOP was identified by ANG Cyber Squadrons as a CNGB #1 Prioritized Critical Gap List (PCGL) capability. ANG Cyber units require an agile, minimal footprint, and a non-DoD information network cloud-based capability for executing DSCA missions, domestic mission partner taskings, and State Partnership Program events. Cloud-based operations will prevent limited existing hardware from being “burned,” and enable near-instant software deployments and reduced operations and maintenance costs. Cloud-based systems are agile and allow adversary engagement from geographically separated locations while maintaining collaboration between operators and analysts—\$15 million shortfall not funded in the FYDP.
- Classified Environments for Malware Analysis and Development (CMAD): ANG Offensive Cyberspace Operations (OCO) units require the ability to perform malware analysis, reverse engineering, and indicator and warning. Each Classified Environment Malware Analysis and Development (CEMAD) system includes the hardware and software necessary to collect, store, process, analyze, and report on malware. The CEMAD collection allows OCO units to import malware from various sources, including the commercial internet and from missions via a cross-domain solution. The CEMAD store creates a repository of collected malware that allows operators and analysts to sort, filter, and perform statistics. The CEMAD process extracts information from stored malware to support sort, filter, and statistics functions. The analyze function allows analysts to perform static and dynamic malware analysis on malware of different formats, including Portable Executable, Executable, and Linker Format while implementing industry standard disassembler, decompiler, and reverse engineering tools. The report function allows analysts to export their results, redact information as necessary, and distribute information in formats suitable for human or machine transfer. Two CEMADs are required for the three OCO units—\$800k shortfall not funded in the FYDP.
- Automated Collaboration and Execution System (ACES): ANG Department of Defense Information Network (DODIN) units are currently using manual processes and legacy software to plan, brief, execute, and debrief (PBED) missions. This includes the use of whiteboards, spreadsheets, emails, and briefing software to drive increasingly complicated cyber operations. Information captured on whiteboards is geographically bound, not properly tracked or disseminated, and static in nature.

Legacy software does not support collaboration or multi-user configurations and requires operators to manually enter metrics, indicators, and mission status, making them all prone to human error. All these manual limitations introduce latency into the battle rhythm, preventing rapid response. DODIN units require an automated collaboration, mission planning, and debrief system to provide a frame for and aid in the cyber PBED process. The system will allow for seamless collaboration across geographically separated units and operators. It should support manual and automatic ingestion of data from mission systems, planning guidance to previous mission data, current operations, and capture real-time metrics to assess measure effectiveness/performance to aid in debrief focal points and mission debrief. It will leverage machine learning to provide appropriate suggestions to planning operations and support manual entry of mission objectives, tactical objectives, tactical tasks, priority intelligence requirements, essential elements of information, and any other free-form data a team deem necessary. Additionally, this capability will visualize schemes of maneuver and team status for leadership. DODIN units require 17 systems that integrate into multiple mission and weapon systems to inform the PBED process—\$8 million shortfall not funded in the FYDP.

**Cyber Infrastructure:** Over 106,000 personnel across all states and territories provide unique ANG Air Control Alert coverage for CONUS training missions required to maintain combat aviation proficiency and continuous support for ongoing persistent strategic missions including Air Refueling, Air Mobility, Space Control, and BCCs. Updating and supporting these missions and supporting continuous digital modernization needs are the primary demands that require secure DoD information network connectivity and enterprise services requirements at every ANG location. Robust, efficient cyber infrastructure and services are required to cultivate a ready digital workforce and take actions to evolve and adapt cybersecurity capabilities that also enable an agile, resilient defensive posture.

- Total Unfunded Modernization Shortfall: \$143.4 million
- Long Haul Communication provides the digital pathways required to enable NIPR, SIPR, Joint Worldwide Intelligence Communications System, and various community of interest system connections. These systems enable critical supported flying and cyber missions, including real-time remotely piloted aircraft missions in various combatant theaters, and direct support functions, including augmented reality used in maintenance areas, virtual reality applications, flight simulators, and distributed training operations. There is an emerging need for redundant and diverse communication transport connections to support AI and ML initiatives in addition to safety and critical mission connectivity needs, which will require significant initial costs and innovation experiments. Improving the resilience and efficiency of redundant system connections will require implementing software-defined wide area networking (SD-WAN) technologies—\$10 million shortfall for 1 Gbps Ethernet upgrades that is not funded in the FYDP; 1-year timeline if funded.
- Digital transformation is sorely needed to address recapitalization of legacy technologies by eliminating existing time division multiplexing architectures and replacing them with current and emerging Ethernet based technologies that enable a

defendable unified capabilities environment. This evolution will include leveraging cloud-based resources in many forms, including enterprise user services (e.g., IL-5 O365, and milDrive), zero-trust enabled access controls, and AI/ML-enabled monitoring solutions that address service consumption from ANG installations and from off-net (i.e., from traditional guardsman homes) using both government and personally owned smart devices (computers and wireless/mobile cellular phones/tablets—\$62 million shortfall (\$38 million for O365, \$24 million for SBC capability) that is not funded in the FYDP; 1-year timeline if funded.

- Current secure (SIPRNet) collaboration technologies are barely adequate at ANG installations. New cloud-based capabilities gaps must be employed to address both on-installation and remote access solutions that simultaneously address C2 challenges while providing timely and resilient capabilities and access where and when needed. Examples are enabling AFNET-S enterprise services across the ANG by employing the JADC2 devices (e.g., ADSV cloud host and client hardware/software), resilient responsive client patching systems, encryption devices/management, and secure mobile/cellular technologies providing voice and data functionality—\$12 million shortfall (\$10 million for SIPR govCloud IL-6 and \$2 million for TACLANE Agile VLAN capability) that is not funded in the FYDP; 1-year timeline if funded.
- Current ANG installation 1 Gbps core and access nodes must be recapitalized with 40Gbps IPv6 capable nodes using software defined networking to provide necessary system responsiveness and resiliency—\$59.4 million shortfall (\$50 million for Core/non-Core BAN Switch Recap and \$9.4 million for NAC) not funded in the FYDP; 1-year timeline if funded.

#### **k. Agile Combat Support**

**Civil Engineering:** The ANG possesses nine Rapid Engineer Deployable Heavy Operational Repair Squadron Engineer units and 90 Prime Base Engineer Emergency Force units. NGREA funding provided upgrades to debris clearance and explosive ordnance disposal (EOD) teams' equipment. Upgrading ANG Civil Engineer units with new equipment aligns resources with the AC and provides horizontal and vertical construction capabilities; urban search and rescue; fire response; EOD; and chemical, biological, radiological, and nuclear (CBRN) tools for engineering forces.

- Total Unfunded Modernization Shortfall: \$70.2 million
- Debris Clearance Kit Modernization: The ANG cannot clear ingress and egress routes because it lacks modernized debris clearance capabilities. Each year, debris clearance kits provide critical support to local, state, and federal agencies. Following natural and man-made disasters, ANG members expediently clear roadways for emergency and utility vehicles. Several regions utilize this equipment multiple times per year, which results in capabilities degrading rapidly. Additionally, the ANG Compact Track Loader (CTL) fleet is aging, increasing the time it takes to clear an emergency route. To restore this capability, approximately 10 percent of the current 144-skid-steer fleet must be modernized—\$1.5 million shortfall not funded in the FYDP; 1-year effort if funded.

- **Debris Clearance Kit Trailer Modernization:** The ANG lacks the ability to expediently clear roadways for emergency and utility vehicles because ANG route debris clearance kit trailers are antiquated. The existing equipment package is one of the most utilized in the civil engineer Domestic Operations (DOMOPS) inventory. Many of the trailers are not properly rated for current mission loadouts and do not have sufficiently sized front landing gear. The current trailers are undersized and so are incapable of performing at full capacity for the debris clearance kit. Procurement of larger, more capable trailers will fulfill the load requirements and meet Department of Transportation specifications—\$0.5 million shortfall not funded in the FYDP; 1-year effort if funded.
- **Disaster Relief Bed-down System Modernization:** The ANG lacks the ability to continue supporting ANG personnel response to natural disasters because it lacks adequate Disaster Relief Bed-down Systems (DRBS). DRBS was originally purchased in 2010 as a response to Hurricane Katrina. The DRBS fulfills the need to support military bed-down in response to natural disasters across the U.S. and its territories. One DRBS kit is capable of housing 150 military personnel. Kits are primarily used by medical and security forces because lodging is rarely available as it is often occupied by locals and non-governmental organizations. Future planning of the kit should include equipment to prevent freezing when utilized in northern states. The tools, parts, and equipment in this modernization will allow full employment of the kit in freezing temperatures—\$11.9 million shortfall not funded in the FYDP; 2-year effort if funded.
- **Overhead Cover Equipment Protection:** The ANG lacks the capability to provide overhead covered protection for all assigned vehicles and mobile equipment supporting domestic response. Because of the current unavailability of inside storage, the vehicles and mobile equipment are exposed to the outside elements, causing degradation and reducing lifespan. Per AFI 32-1020, Planning and Programming Built Infrastructure Projects, an authorization for all 90 Wings to utilize a Relocatable Facility is requested as a temporary solution, as it does not affect the bases' real property or square footage authorization. Some locations may require fully enclosed protection, while others may only need a sunshade. The overhead cover must have a minimum of two access points to provide easy movement of vehicles and equipment in and out of the overhead protection. Each overhead protection will need to be uniquely sized for domestic response vehicles and mobile equipment each unit has assigned, with the option to be professionally installed per each unit's requirements. A long-term solution is to increase/modify the square footage authorization—\$8.1 million shortfall not funded in the FYDP; 2-year effort if funded.
- **Engineering Assistant Equipment (Survey Equipment):** ANG lacks the capability to properly conduct civil engineer surveys because its equipment is outdated. Survey equipment in the Air National Guard (ANG) is grossly outdated, with industry standards making rapid gains. The Army National Guard was able to recently update their assets, catching up to the current industry standards, providing a real mission asset. RED HORSE and Regional Training Sites (RTS) require a full upgrade of GPS equipment and a partial update of the optical survey equipment. Each RTS

requires three GPS kits consisting of a base station, radio transmitter, and a rover, with one kit containing an additional rover with all-terrain capability. The optical survey equipment package would consist of a total station and a rover. The survey equipment is multi-capable, supporting Agile Combat Employment missions and Aircraft Mishap Surveys, and decreases manpower need—\$9.5 million shortfall not funded in the FYDP; 1-year effort if funded.

- EOD Base Response Equipment: Seventeen ANG units are uniquely trained and equipped to facilitate explosive operations during joint wartime missions. In the deployed environment, EOD operators routinely defeat improvised explosive devices, render unexploded ordnance safe, perform route clearance operations, conduct post-blast analysis and evidence collection, and embed with special operations forces. Furthermore, EOD technicians must also be prepared to respond to incidents involving chemical/biological weapons, weapons of mass destruction, and nuclear weapons. These units will be equipped with upgraded robotic systems and up-to-date personal protective equipment (PPE), specifically bomb suits and helmets—\$1.7 million shortfall not funded in the FYDP; 2-year effort if funded.
- The ANG struggles to perform fatality search and rescue recovery team missions due to the lack of PPE. Current MT94 suits are expiring. A lighter more flexible suit is needed for continued recovery operation. The MT94 suit is a heavily constructed suit that causes the service member to exhaust their energy rapidly, accelerating burnout. ANG service members in the current suits are only able to work in 1-hour increments before transitioning out. FEMA has recommended 3 days in MT94 for recovery and 2 days in a less restricted ensemble. Using the current MT94 suits the Fatality Search and Recovery Teams (FRST) cannot expedite the recovery process being hampered by cumbersome equipment—\$0.7 million shortfall not funded in the FYDP; 1-year effort if funded.
- The ANG lacks the capability to support complex/long duration CBRN missions because of its outdated CBRN trailer fleet. Retrofitting existing trailers into a multi-capable incident response trailer will provide data connections, increased work area, and improved environment controls to support incident command and Joint Task Force teams. Installing additional cooling and heating and increasing the insulation ensures interior trailer temperatures are sustained. To increase the workspace footprint by 600 square feet, a collapsible, ruggedized, and weather resistant shelter that attaches to the trailer is required. The ANG requires modernization of existing trailers located at 65 Emergency Management Flights—\$6.4 million shortfall not funded in the FYDP; 2-year effort if funded.
- The ANG Emergency Management career field cannot rapidly deploy and monitor currently fielded detection equipment because specialized equipment is unavailable. All ANG Emergency Management units require a rapidly deployable Chemical, Biological, Radiological, and Nuclear detection grid suite that facilitates the rapid flow of information from field level sensors to the team lead. This suite will use government off-the-shelf software as the backbone and have its own independent wireless mesh network for data transfer. Currently fielded sensors are incompatible with the fielded software and mesh network and require non-recurring engineering or replacement. End user devices are also needed to provide situational awareness

and to control sensors remotely. This suite will provide the near real-time data needed for Emergency Management personnel to provide rapid, accurate Mission Oriented Protective Posture recommendations for decision makers and determine other lifesaving actions. Integration will be needed to incorporate this data into the current Common Operational Picture for the ANG—\$18.9 million shortfall not funded in the FYDP; 2-year effort if funded.

- The ANG lacks the capability to provide real-time situational assessments because of a lack of unmanned systems that can be used to simultaneously provide situational awareness to a single node of users. These unmanned systems include ground and aerial assets. Each asset, whether ground or air, must be capable of transporting multiple sensors that also provide live data back to the same single node of users. These sensors may be visual, thermal, chemical, and radiological. Additionally, all sensor feeds will need to be controllable through government off the shelf software. One Integrated Unmanned Situational Awareness System will be placed regionally to support 92 Civil Engineer Prime Base Engineer Emergency Force (BEEF) units—\$2.5 million shortfall not funded in the FYDP; 1-year effort if funded.

The ANG lacks the capability to maintain civil engineer readiness because it lacks training equipment. The ANG Civil Engineer community requires realistic CBRN and equipment training simulation systems to increase Mission Ready Airman (MRA) proficiency at the tactical level. Training simulation devices increase Agile Combat Employment (ACE) Support and National Guard operational readiness to provide Airman centralized cross-functional training for wartime skills when equipment is not available locally. Training simulator packages will be placed regionally to support 90 Civil Engineer Prime BEEF and 9 Rapid Engineer Deployable Heavy Operational Repair Squadron Engineer (RED HORSE) units. \$6.6 million shortfall not funded in the FYDP; 2-year effort if funded.

**Medical:** The ANG possesses 90 Medical units, 27 of which have an additional tasking for the CBRN Enhanced Response Force Package (CERFP), 3 Guardian Angel units, and 10 Aero-Medical Evacuation units.

- Total Unfunded Modernization Shortfall: \$12 million
- Critical Care Air Transport Team (CCATT) Equipment: Six sets of CCATT Equipment Kits—\$8.5 million shortfall not funded in FYDP; 2-year effort if funded.
- CERFP Modernization: Rapid Response Shelter equipment was successfully funded with FY 2022 NGREA (\$8.9 million) and will effectively close out this critical capability gap. Units are anticipating deliveries to start in November 2022.
- Aero-Medical Evacuation (AE) Equipment: The AE equipment is currently loaned from AC stocks for the ANG AE mission—\$3.5 million shortfall not funded in the FYDP; 2-year effort if funded.

**Operational Training Infrastructure (OTI), Simulation, and Range Instrumentation:** OTI is the overarching training technology that encompasses and links all aspects of

simulation, including DMO and range instrumentation, into a live, virtual, constructive battlespace environment. The ability to connect simulators for mission rehearsal events and exercises adds a significant and required level of realism to simulator training. Using NGREA, the ANG has aggressively invested in tactical and virtual range infrastructure to meet 5th generation aircraft training requirements. The baseline structure for OTI is a fielded array of high fidelity, state-of-the-art aircrew, and weapon system simulators at every ANG unit. The ANG procures simulators through Air Force programs of record and designs, builds, and manages simulator programs in-house to meet training requirements.

- Total Unfunded Modernization Shortfall: \$136 million
- F-16 Mission Tactics Trainer–Guard (MTT-G) provides a distributed mission capable trainer for F-16 pilots in block 30 and 40 configuration. Eleven MTT-Gs, paid for with NGREA, were previously delivered. The ANG has used an additional \$77 million in NGREA for 22 more MMT-Gs as a block II purchase. Of those, eight block II training devices have been delivered as of the end of FY 2022. The remaining 14 training devices are ahead of schedule and deliveries should be completed by February 2024.
- The ANG currently lacks block 50 F-16 training devices in three units. Each of the four units identified requires four high fidelity simulators. The current estimated costs of these trainers \$78 million and is currently unfunded.
- Range Infrastructure provides radios, datalinks, surrogate target, and EW emitters for ANG ranges to meet USAF Range Enterprise Tier standards. Previously, the ANG used \$9.5 million in NGREA to successfully upgrade war rooms across six wings. The upgraded war rooms provide mission planning, post training debrief, live HD mission video feed, live on-field communication, and additional capabilities to the warfighter. The ANG is now moving forward with \$2.2 million in NGREA to procure high fidelity targets and movers to provide state of the art real world training for 5th generation fighters. An additional \$19 million is required over the next 4 years to properly outfit all ANG ranges with current generation targets and war rooms.
- The ANG utilized NGREA to procure a new Joint Terminal Attack Controller (JTAC) virtual reality desktop trainer for 16 units. The new trainers allow JTACs to complete required training in a high-fidelity, fully-immersive environment while reducing the physical footprint of the simulator and slashing sustainment costs by over 90 percent yearly moving forward.
- Tactical Combat Casualty Care (TCCC) has replaced self-aid buddy care as the standard of care in prehospital battlefield medicine. The ANG currently lacks the proper training equipment to ensure members are trained. High-fidelity TCCC mannequins will help close the training gap and provide training in myriad scenarios members may encounter in the real world. An additional \$15 million dollars over the next 3 years is required to fund this effort.

**Security Forces:** ANG Security Forces (SF) includes over 7,500 Defenders from all wings in all 54 states and territories. Security Forces protect and support worldwide



contingencies and home-station installations. SF missions include installation access control, base defense, asset security, suspect apprehension and detention, high-risk vehicle inspections, heavy weapons support with military operations in urban terrain, mounted and dismounted individual and team patrols, convoy operations, detainee movement operations, personal security details, fly-away security, Raven tasking, close precision engagement teams, active shooter response, and weapons qualifications through combat arms. Additionally, Security Forces units work in cooperation with local, state, and federal public safety and security organizations to support a full range of incident management activities. Security forces personnel have responded to multiple natural disasters and civil unrest to support law enforcement agencies across the nation. The following make up some of the more pressing needs of our total shortfall.

- Total Unfunded Modernization Shortfall: \$163 million
- Improved Modular Ballistic Protection: ANG SF require modernized body armor to provide SF personnel the capability to improve Defender survivability and reduce chronic fatigue and injury. To preserve and maintain the currently strained manpower in the SF field, armor must integrate with currently fielded SF duty gear at a lighter and more effective overall weight. These semi-rigid panels are intended to support the current duty gear and distribute weight more evenly across the Defender. As these panels (no greater than 0.80 pounds per square foot in density) are to be required in combination with hard plates issued in theater, they must meet or exceed National Institute of Justice (NIJ) Level IIIA, MilStd 662f, and MilStd 3027 (V50, fragmentation, etc.) while maintaining standard (SAPI) sizing—\$20 million shortfall not funded in the FYDP; 2-year effort if funded.
- Modular Small Arms Ranges: ANG Combat Arms (CA) personnel need a Modular Indoor Containerized Range (MICR) that will provide a fully enclosed zero surface danger zone and vertical danger zone environment, allowing personnel to train and qualify safely 365 days a year, day and night, regardless of external environmental conditions. With the MICR, CA personnel will be able to ensure all the Air Force's assigned combat personnel, an average of over 250 personnel per installation, will receive weapons qualification training in a timely and cost-effective manner. The need for modular small arms ranges is magnified because of continued deteriorating ranges across the states. Those degraded ranges are currently operating with waivers until repairs become too costly, or waivers are withdrawn, and they will be closed. Due to significant health and safety concerns, regulations prohibit major or component repairs of an existing range if it will cost more than 50 percent of the estimated replacement cost. Currently, there are 17 ranges identified that need immediate attention, but this number continues to increase as other ranges become unusable—\$77 million shortfall not funded in the FYDP; 4-year effort if funded.
- M18 Block II Kit (Optical Sighting System, Illuminator and Holster): ANGs SF require a modernized pistol-mounted optic to provide SF personnel the capability to improve rapid target acquisition and multi-threat engagement in low light environments. An illuminated "dot" reflex sight would allow for detecting and engaging multiple targets with greater accuracy at greater distances. Having the ability to superimpose an illuminated dot on a suspect increases situational awareness by allowing Defenders

to focus on the individual and the surrounding area. This optic must be night vision compatible, have adjustable brightness levels that include a manual on/off setting, windage and elevation capabilities. Tritium suppressor height front sights and optic plate-integrated rear sights are required for a co-witness sight picture in the case of optic failure. Additionally, SF personnel require a pistol mounted flashlight to increase the ability to positively identify and accurately engage targets in a limited visibility environment. Security Forces require a durable, quick detachable, 1000 lumen LED light source with a minimum of 10,000 candela to illuminate common indoor and outdoor environments. The product must have an ambidextrous on/off switch and at least momentary-on and constant-on modes. With the upgraded light attachment, the holster will also need to be updated—\$8 million shortfall not funded in the FYDP; 2-year effort if funded.

- **Less Than Lethal Equipment Modernization:** The ANG SF units require upgrades and modernization to existing Less-Than-Lethal kits. This would provide upgrades to necessary safety equipment and the ability to extend operations and provide more on scene capabilities. Riot shields, modern and light weight PPE, and laser eye protection will safeguard Airmen from the growing and emerging threats. Portable power, self-contained lighting systems, and a generator will allow for better C2 and extended field operations for each of the 100 ANG Security Forces Less Than Lethal Kit QFLLL Unit Type Codes—\$4 million shortfall not funded in the FYDP; 1-year effort if funded.
- **Enhanced Communication and Hearing Protection Systems:** ANG SF require an improved modular communications and hearing protection system. This system must be adaptable to current and future handheld communications equipment, feature noise canceling, and be both gas mask and helmet compatible in a low-profile inner ear configuration. The system must protect hearing to the level of ANSI S3.19-1974 and provide greater than 20 dB of attenuation. Security Forces require a model that would assist with increased hearing protection without sacrificing clear communication within the team. Also, having a headset that expeditiously converts from a single-ear device for discrete law enforcement communications to a dual headset for high-noise environment operations would provide hearing protection that will greatly increase Security Forces capabilities over current systems, increase 360-degree situational awareness, and reduce noise related injuries. Standard system must be able to fit 95 percent of SF members that are issued headsets, with a custom option available for the remaining 5 percent—\$17 million shortfall not funded in the FYDP; 1-year effort if funded.

**Special Warfare:** Special Warfare is a new nomenclature, replacing Battlefield Airmen. Special Warfare refers to the three different squadron types: Special Tactics (ST), Guardian Angel (GA), and Air Support Operations Squadrons (ASOS). These three different types of squadrons comprise Combat Controllers, Pararescue, Tactical Air Control Party (TACP), and Survival, Evasion, Resistance and Escape (SERE) Reconnaissance.

- Total Unfunded Modernization Shortfall—\$29.4 million

- The ANG has procured and fielded Handheld Link-16 (HH-16) radios and required equipment for all ASOS units using \$12 million in NGREA, meeting 75 percent of the fielding requirement. The HH-16 radio procurement will allow digital interface capabilities with multiple aircraft. Integrating the Link-16 onto the user creates a better understanding of the operational battlespace while increasing situational awareness by displaying the mission critical live stream information of all involved air players and ground parties in a joint operation.
- The ANG delivered 20 Small Unmanned Aircraft Systems (sUAS) of varying size and capabilities for the two Special Tactics Squadrons in the ANG using \$3.9 million in NGREA. These UASs allow the Special Warfare operators teams—comprising combat controllers and pararescue—to analyze their own environment in precarious or life-threatening situations. Another \$4 million is required to procure additional sUAS to fulfill the remaining shortfall.
- Over the last few years, the ANG has procured 30 Ultra-Light Tactical Battlefield Vehicles (ULTV) for use in austere or urban environments using \$7.8 million in NGREA. The vehicles in the current fleet available to Special warfare units are too hardened and too large to use to move to an objective quickly. The purchases of the ULTVs also standardize the tactical vehicles used across all services' Special Forces units. Deliveries started in Q1FY 2023.
- Over the past year, the ANG fielded Low Visibility Tactical Sprinter Vehicles to facilitate troop movement in urban and light off-road operations procured using \$2.6 million in NGREA funding. The sprinter vehicles can transport 2–8 operators and equipment with a modular design that can meld to specific mission sets. It is outfitted to be air transportable by C-130 or larger aircraft. During domestic operations, vehicles have a fully integrated communication suite for joint operations.
- The ANG has procured 60 vehicle agnostic C2 communication systems that are an essential component of communications upgrades for the special warfare community to maintain relevancy on the battlefield of the future. To complete this communication upgrade, 10 C4 systems are required to complement the 60 C2 systems, of which five are currently fielded. These ten systems are programmed for funding in FY 2023. Five additional C4 units are required with an estimated cost of \$11.5 million, which is currently unfunded.
- Both the ST and GA require a modernized aerial cargo delivery package. Tandem masters are using older and outdated parachute systems. Containers and parachutes for equipment and parachute equipment release assemblies need to be updated to fit the vast scope of mission sets. ANG GA squadrons each require T-10 disposable parachutes, G-12 disposable parachutes, and night-vision goggles. Night Vision Goggles were purchased, but the other components of this package still need to be purchased. A shortfall of \$5 million in equipment remains.

## **B. Changes Since the Last NGRER**

Although the FY 2022 Defense Appropriation improved the ANG's sustainment, modernization, and recapitalization efforts, there are still modernization gaps between the AC and RC equipment. The ANG's C-130 fleet continues to be primarily made up of

legacy HC-130H aircraft, though 16 newer HC-130Js have been funded through congressional adds and successfully added to the inventory. The HC-130H Avionics Modernization Program was fully funded and is on contract, which will significantly increase the aircraft capabilities. The ANG's F-16 fleet remains primarily made up of legacy Block 30/32 aircraft that have received significant capability upgrades, including center display units paid for with NGREA funding. The F-15C fleet is reaching the end of its useful life, but new F-15EXs will enter the inventory in the next few years. ANG continues to work within Air Force and DoD requirements development, acquisition, and test processes to ensure the ANG's fleet of aircraft is safe, modern, and fully integrated.

Significant ongoing changes since the publication of the previous NGRER:

- F-35 Lightning II deliveries to the 158th Fighter Wing, Burlington, VT, are in progress.
- KC-46 Pegasus deliveries to the 157th Air Refueling Wing, Pease, NH, are in progress.
- F-15 EX deliveries for test and evaluation are in progress.

## **C. Future Years Program (FY 2024–FY 2026)**

### **1. FY 2024 Equipment Requirements**

*Table 1 Consolidated Major Item Inventory and Requirements* provides projected FY 2024–FY 2026 major equipment inventories and requirements.

### **2. Anticipated New Equipment Procurements**

*Table 3 Service Procurement Program–Reserve (P-1R)* lists planned versus actual procurements. *Table 4 NGREA Procurements* provides ANG planned NGREA procurements for FY 2021–FY 2023.

### **3. Anticipated Transfers from AC to ANG**

*Table 5 Projected Equipment Transfer/Withdrawal Quantities* lists planned ANG transfers for FY 2024–FY 2026.

### **4. Anticipated Withdrawals from ANG Inventory**

*Table 5* also lists planned ANG major equipment withdrawals for FY 2024–FY 2026, including the force structure changes discussed in Section II, paragraph B of this chapter.

### **5. Equipment Shortages and Modernization Shortfalls**

The Director, Air National Guard's three lines of effort remain the same: Readiness for Today's Fight; 21st Century Guard Airman; and Build for Tomorrow's Fight. The ANG's modernization efforts remain focused on the first and last of these three tenets, continuously improving readiness and improving capability to support future combat and domestic operations. Some expected shortfalls for these lines of effort include

F-15/F-16 AESA radars, C-130H propulsion upgrades, and mobile/deployable Remotely Piloted Aircraft Detect and Avoid Capability. Further information on equipment and modernization shortfalls that are anticipated through the end of FY 2024 are listed in the preceding “Modernization Programs and Shortfalls” section of this chapter and in the “ANG Equipment Shortfalls” section in Appendix B.

*Table 1 Consolidated Major Item Inventory and Requirements* and *Table 8 Significant Major Item Shortages* provide ANG equipment inventories, shortfalls, and modernization requirements.

#### **D. Summary**

The ANG’s efforts are guided by the Chief, National Guard Bureau and the Director, Air National Guard’s priorities and focus areas. Readiness will remain a top priority. A modernized and recapitalized ANG with equipment and warfighting platforms fielded concurrently with the AC is the most effective path to supporting the NDS. The ANG’s efforts are summed up best by the Chief, National Guard Bureau:<sup>9</sup>

*Given the uncertain future and budget priorities, we expect the Department of Defense (DoD) to rely on the National Guard more, not less. Therefore, we must be ready to execute our three core missions: fighting America’s wars; securing the homeland; and building enduring partnerships that support our nation’s strategic objectives. Continued investment in the National Guard ensures we can meet today’s demands while preserving the capability, capacity, and deterrence our nation needs against a broad spectrum of potential future threats.*

**–General Daniel Hokanson  
Chief, National Guard Bureau**

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<sup>9</sup> Written statement of Gen Daniel Hokanson, 2022 National Guard Bureau Posture Statement November 8, 2021, p. 4.

**Consolidated Major Item Inventory and Requirements**

*NOTE: This table provides a comprehensive list of selected major equipment items. It provides the projected inventory quantity on-hand (QTY O/H) at the beginning/end of the selected fiscal year (FY). It also provides the quantity required (QTY REQ) to meet the full wartime requirements of the Reserve Component. In accordance with Title 10, the QTY REQ number provides the recommendation as to the quantity and type of equipment that should be in the inventory of each Reserve Component. FY 2023 unit cost estimates are provided by the Military Departments.*

Nomenclature	Equip No.	Unit Cost	Begin FY 2024 QTY O/H	Begin FY 2025 QTY O/H	Begin FY 2026 QTY O/H	End FY 2026 QTY O/H	End FY 2026 QTY REQ
<b>Air Refueling</b>							
Air Refueling, KC-135R	KC-135R	\$57,640,000	135	133	128	126	135
Air Refueling, KC-135T	KC-135T	\$57,629,000	24	24	24	24	24
Air Refueling, KC-46A	KC-46A	No Data	12	12	12	12	12
<b>Airlift</b>							
Airlift, C-130H	C-130H	\$26,700,000	87	85	79	71	71
Airlift, C-130J	C-130J	\$62,740,000	40	42	48	56	56
Airlift, C-17A	C-17A	\$246,515,900	50	50	50	50	50
Airlift, LC-130H	LC-130H	\$21,396,000	10	10	10	10	10
<b>Electronic Warfare (EW)</b>							
EW, E-8C	E-8C/AOT	\$245,800,000	4	0	0	0	0
EW, EC-130J	EC-130J	\$54,171,000	4	0	0	0	0
<b>Fighter</b>							
Fighter, A-10C	A-10C	\$10,800,000	63	63	42	42	42
Fighter, F-15C	F-15C	\$29,690,000	89	67	21	0	0
Fighter, F-15D	F-15D	\$27,290,000	14	9	0	0	0
Fighter, F-15EX	F-15EX	No Data	0	6	6	21	80
Fighter, F-16C	F-16C	\$8,225,000	245	225	225	205	225
Fighter, F-16D	F-16D	\$10,470,000	42	32	32	32	42
Fighter, F-22A	F-22A	\$172,450,000	20	20	20	20	20
Fighter, F-35A	F-35A	No Data	35	56	74	88	120
<b>Operational Support</b>							
Op Support, C-32B	C-32B	\$72,543,000	2	2	2	2	2
Op Support, C-40C	C-40C	\$77,300,000	3	3	3	3	3
<b>Rescue</b>							
Rescue, HC-130J	HC-130J	\$73,358,000	12	12	12	12	12
Rescue, HH-60G	HH-60G	\$14,334,000	18	9	0	0	0
Rescue, HH-60W	HH-60W		0	6	18	18	18
<b>Miscellaneous Equipment</b>							
MD-1A	MD-1A	\$1,772,000	30	30	30	30	30
MD-1B	MD-1B	\$1,455,000	5	5	5	5	5
MQ-9A	MQ-9A	\$9,451,000	24	24	24	24	24

## Average Age of Equipment

*NOTE: This table provides the average age of selected major equipment items. The average age provides a projected average age of the fleet at the start of FY 2023.*

Nomenclature	Equip No.	Average Age	Remarks
<b>Air Refueling</b>			
Air Refueling, KC-135R	KC-135R	59	
Air Refueling, KC-135T	KC-135T	61	
Air Refueling, KC-46	KC-46	2	
<b>Airlift</b>			
Airlift, C-130H	C-130H	32	
Airlift, C-130J	C-130J	16	
Airlift, C-17A	C-17A	21	
Airlift, C-40C	C-40C	17	
Airlift, LC-130H	LC-130H	35	
<b>Electronic Warfare (EW)</b>			
EW, E-8C	E-8C	50	
EW, TE-8A	TE-8A	50	
EW, EC-130J	EC-130J	20	
EW, RC-26B	RC-26B	26	
<b>Fighter</b>			
Fighter, A-10C	A/OA-10C	42	
Fighter, F-15C	F-15C	39	
Fighter, F-15D	F-15D	38	
Fighter, F-16C	F-16C	33	
Fighter, F-16D	F-16D	34	
Fighter, F-22A	F-22A	17	
Fighter, F-35	F-35	2	
<b>Operational Support</b>			
Op Support, C-32B	C-32B	17	
Op Support, C-40C	C-40C	17	
<b>Rescue</b>			
Rescue, HC130J	HC130J	2	
Rescue, HH-60G	HH-60G	30	
Rescue, HH-60W	HH-60W		
<b>Intel Surveillance &amp; Reconnaissance</b>			
ISR, MQ-009A	MQ-009A	6	
<b>Ground Control Station</b>			
GCS MD-001A		12	
GCS MD-001B		12	

**Service Procurement Program - Reserve (P-1R)**

*NOTE: This table provides a comparison of the dollar value of the FY 2021 request, the FY 2021 enacted amount; and, the actual amount spent on procurement for specific categories of RC equipment. All values are costs in millions. Deliveries of procured equipment normally take one to two years before they arrive in the inventory; e.g., items procured in FY 2023 are expected to arrive in RC inventories in FY 2024 or FY 2025.*

<b>Nomenclature</b>	<b>Request</b>	<b>Enacted</b>	<b>Actual</b>
Tactical Aircraft	175	175	175
Organization and Base	61	61	61
Other Aircraft	49	49	49
Common Support Equipment	40	40	40
Electronics Programs	9	9	9
Air Force Communications	9	9	9
Cargo and Utility Vehicles	9	9	9
Special Purpose Vehicles	7	7	7
Airlift Aircraft	2	2	2
Base Support Equipment	2	2	2
Base Maintenance Support	1	1	1
Depot Plant+Mtrls Handling Eq	1	1	1
Spcl Comm-Electronics Projects	1	1	1
Personal Safety & Rescue Equip	0	0	0
Passenger Carrying Vehicles	0	0	0
<b>Total</b>	<b>365</b>	<b>365</b>	<b>365</b>



## National Guard and Reserve Equipment Account (NGREA) Procurements

*NOTE: This table identifies the dollar value of planned equipment procurements with the National Guard and Reserve Account (NGREA). These funds are available for a three-year period from the year of appropriation. Deliveries of procured equipment normally take one to two years from the date of procurement before they arrive in the inventory.*

Air National Guard Defense Appropriations Act NGREA	FY 2021	FY 2022	FY 2023 <sup>1</sup>
<b>Air Superiority and Global Precision Attack</b>			
CAF Helmet Mounted Cueing Systems	3,000,000	14,600,000	
CAF Communications Suite Upgrades	16,000,000	12,500,000	
CAF Avionics Upgrades	16,100,000	3,000,000	
CAF Defensive Systems Upgrades	8,800,000	9,250,000	
CAF Advanced Targeting Pods	24,190,000	17,000,000	
<b>Rapid Global Mobility</b>			
MAF Communications and Avionics Suite Upgrades	26,000,000	54,050,000	
MAF Defensive Systems Upgrades	26,600,000	27,250,000	
MAF Propulsion Upgrades	1,000,000	100,000	
MAF Podded Sensors		5,000,000	
MAF Airlift Operations Enablers		250,000	
<b>Personnel Recovery, Special Operations, and Special Warfare</b>			
EC/HC-130 Communications, Avionics, and Defensive Systems	17,300,000	4,300,000	
Guardian Angel/Special Tactics/Tactical Air Control Party Equipment	16,940,000	7,310,000	
<b>Space, Cyber/IO, C2, and ISR</b>			
Space Operations and Training Equipment	21,000,000	4,000,000	
Cyber Operations and Training Equipment	16,800,000	13,500,000	
Intel, Information, Imagery, Analysis, & Assessment Equipment	1,700,000	3,100,000	
C2 Operations and Training Equipment	19,603,500	20,700,000	
ISR Communications, Avionics, Defensive Systems, and Operations	22,450,000	23,700,000	
<b>Simulation, DMO and Ranges</b>			
CAF Simulators	5,800,000	11,000,000	
MAF Simulators	12,087,500	4,200,000	
Personnel Recovery/Special Operations Simulators	5,129,670		
C2 Simulators (AOC, BCC, CRC, DCGS, JSTARS)	2,000,000		
Distributed Mission Operations / Live Virtual Constructive Equipment	3,874,000	2,279,000	
ANG Range & Instrumentation Upgrades	1,100,000	2,000,000	
<b>Agile Combat Support</b>			
Logistics Support Equipment	5,730,000	6,600,000	
Public Health and Medical Services Equipment	3,055,510	10,886,000	
Mass Care Support Equipment	800,000	2,067,000	
Civil Engineering and Explosive Ordnance Disposal Equipment	1,550,000	11,190,000	

**National Guard and Reserve Equipment Account (NGREA) Procurements**

Air National Guard Defense Appropriations Act NGREA	FY 2021	FY 2022	FY 2023 <sup>1</sup>
Fire Fighting Equipment	2,389,820	3,200,000	
Security Forces Equipment	4,000,000	11,968,000	
<b>Total ANG NGREA</b>	<b>285,000,000</b>	<b>285,000,000</b>	<b>305,000,000</b>

1. FY 2023 spending plan was not available at time of publication.

**Projected Transfer/Withdrawal Quantities**

*NOTE: This table portrays the planned equipment transfers (Active to Reserve), withdrawals (-), and decommissioning (-). Transferred equipment is commonly called "cascaded equipment," or equipment that is provided to the RC once the AC receives more modern equipment. Although this table highlights a three-year period, many Services will not know exact quantities of transfers or withdrawals until year of execution, due to the uncertainty of the procurement/delivery cycle of new equipment.*

Nomenclature	Equip No.	FY 2024 Qty	FY 2025 Qty	FY 2026 Qty	Remarks
<b>Air Refueling</b>					
Air Refueling, KC-135R	KC-135R	-1	-4		These numbers reflect the sum of the 9 aircraft in FY23, and 9 additional aircraft between FY24-26 that are scheduled to be divested from the ANG. Additionally, they include the 4 additional aircraft the 168th ARW is scheduled to received from AMC and PACOM between FY23-25.
Air Refueling, KC-46A	KC-46A				
<b>Airlift</b>					
Airlift, C-130H	C-130H	-2	-6	-8	Divestments associated with units converting to the C-130J
Airlift, C-130J	C-130J	2	6	8	These are new deliveries, not transfers
<b>Electronic Warfare (EW)</b>					
Electronic Warfare, E-8C	E-8C	-4			
<b>Fighter</b>					
Fighter, A-10C	A-10C		-21		
Fighter, F-15C	F-15C	-25	-50	-12	
Fighter, F-15D	F-15D	-2	-5	-9	
Fighter, F-15EX	F-15EX		6	15	
Fighter, F-16C	F-16C	-20		-20	
Fighter, F-16D	F-16D	-10			
Fighter, F-35A	F-35A	21	18	14	

### FY 2020 Planned vs Actual Procurements and Transfers

*NOTE: This table compares planned Service procurements and transfers to the RC in FY 2020 with actual procurements and transfers. FY 2020 is selected as these are the most recent funds to expire. Because the procurement cycle is normally one to two years from funding to delivery, this table identifies only deliveries through the end of 2022. Procurement and NGREA columns reflect cost values in dollars. In FY 2020, \$1.3 billion of NGREA was reprogrammed by DoD.*

Nomenclature	Equip. No.	FY 2020 Transfers (# of items)		FY 2020 Procurements (\$s)		FY 2020 NGREA (\$s)	
		Plan	Actual	Plan	Actual	Plan	Actual
<b>FY 2020 Planned Transfers and Withdrawals</b>							
Airlift, C-130H	C-130H	-1	-4				
Airlift, C-130J	C-130J	10	1				
EW, E-8C	E-8C	-1	0				
Fighter, A-10C	A-10C	-43	0				
Fighter, F-16C	F-16C	-19	0				
Fighter, F-35A	F-35A	18	17				
<b>FY 2020 Service Procurement Programs – RC (P-1R) Equipment</b>							
<b>Modification of Inservice Aircraft</b>							
A-10				0	2,000,000		
B-1B				4,500,000	0		
C-130				7,360,000	1,544,000		
C-135				24,969,000	26,311,000		
F-15				33,876,000	50,015,000		
F-16				28,159,000	96,186,000		
F-22A				10,163,000	11,106,000		
Aircraft Replacement Support Equipment				4,185,000	26,602,000		
<b>Vehicular Equipment</b>							
Passenger Carrying Vehicles				193,000	203,000		
Medium Tactical Vehicle				1,744,000	1,228,000		
Cargo and Utility Vehicles				6,951,000	6,835,000		
Joint Light Tactical Vehicle				1,313,000	1,688,000		
Security And Tactical Vehicles				106,000	105,000		
Special Purpose Vehicles				5,214,000	5,204,000		
Runway Snow Removal and Cleaning Equipment				307,000	335,000		
Base Maintenance Support Vehicles				778,000	776,000		
<b>Electronics and Telecommunications Equipment</b>							
Air Traffic Control & Landing System				1,986,000	1,860,000		
Theater Air Control System Improvement				3,135,000	0		
Air & Space Operations Center (AOC)				500,000	987,000		
Base Information Transportation Infrastructure (BITI)				4,819,000	8,292,000		
Tactical C-E Equipment				19,721,000	46,666,000		
Base Comm Infrastructure				9,724,000	7,848,000		
<b>Other Base Maintenance and Support Equip</b>							

**FY 2020 Planned vs Actual Procurements and Transfers**

Nomenclature	Equip. No.	FY 2020 Transfers (# of items)		FY 2020 Procurements (\$s)		FY 2020 NGREA (\$s)	
		Plan	Actual	Plan	Actual	Plan	Actual
Personal Safety and Rescue Equipment				331,000	331,000		
Mechanized Material Handling Equipment				488,000	1,190,000		
<b>Total</b>				<b>170,522,000</b>	<b>297,312,000</b>		
<b>FY 2020 National Guard and Reserve Equipment Account (NGREA) Equipment</b>							
<b>Total</b>						<b>0</b>	<b>0</b>

**Major Item Of Equipment Substitution List**

*NOTE: This table identifies equipment authorized by the Service to be used as a substitute for a primary item of equipment. The table also identifies whether or not the item is deployable in wartime. This data meets the Title 10 requirement to identify substitutes that are not the most desired equipment item.*

Required Item Nomenclature	Reqd Item Equip No.	Substitute Item Nomenclature	Substitute Item Equip No.	FY 2023 Qty	Deployable?	
					Yes	No

**Service Does Not Use Substitution to Satisfy Major Item Equipment Requirements.**

## Significant Major Item Shortages

*NOTE: This table provides a RC top ten prioritized (PR) shortage list for major equipment items required for wartime missions but which are currently not funded in the FYDP. It lists the total quantity required, the total unfunded requirement, the individual item cost, and the cost of the unfunded portion. This data is consistent with other unfunded equipment data submitted by the Service.*

PR	Nomenclature	Total Req'd	# Items Short	Item Cost	Total Shortage Cost	Rationale/Justification
1	C-130H Propulsion Improvements	114	83	\$6,988,000	\$580,000,000	Provides efficiency and performance improvements for the C-130H model aircraft. Although the overall size of the H-model fleet may decrease over time, the ANG will continue operating this aircraft for the foreseeable future. As a result the C-130H can and should have an established modernization program for all aspects of the weapon system. Propulsion modernization is three different initiatives including the 3.5 engine upgrade, NP2000 eight-bladed propeller, and the Electronic Propeller Control System (EPCS). The 3.5 engine program updates the compressor and turbine stages of the T56 engine, and the resulting engines provide a 10% fuel savings and a 24% improvement in time on wing. The EPCS/NP2000 eight-bladed propellers and control sytem improve takeoff performance and low speed power, and significantly reduce maintenance requirements and deployed spares. When combined these systems will improve the overall efficiency, improve the performance, and extend the life of the T56 engines. Thirty one ANG C-130Hs are funded for EPCS/NP2000 and 3.5 upgrades.
2	C-130J Support Equipment	2	2	\$29,000,000	\$58,000,000	Funding provides support equipment and initial spares for C-130J ANG units receiving Congressional adds of C-130J aircraft. The Congressional adds did not include funding for support equipment or spare parts.

**Significant Major Item Shortages**

PR	Nomenclature	Total Req'd	# Items Short	Item Cost	Total Shortage Cost	Rationale/Justification
3	Mobile/Deployable Remotely Piloted Aircraft (RPA) Detect and Avoid Capability	12	9	\$4,700,000	\$42,300,000	The current Remotely Piloted Aircraft (RPA) configuration and equipment, along with international and FAA safety requirements, limit the ability to operate RPAs in international and domestic airspace. RPA flight operations require specific, International Civil Aviation Organization (ICAO), FAA, or foreign approvals, which restrict aircraft airspace routing and altitude. These restrictions inhibit aircrew training and degrade operational flexibility during Federal and state missions. An RPA operating with a Ground-Based Detect and Avoid (GBDAA) system meets the requirement of collision-avoidance contained in the ICAO Rules of the Air and FAA Federal Aviation Regulations (FAR). GBDAA systems incorporate low cost commercial off-the-shelf active radar sensors to provide ANG with an affordable, scalable, and transportable sense and avoid system.
4	Multi-Mission Design Series Real Time Information In the Cockpit (RTIC) for KC-135, C-17, C-130J Aircraft	224	224	\$1,102,679	\$247,000,000	Provides secure line-of-sight and beyond line-of-sight radios and data link to enable KC-135, C-17, and C-130J aircrews to participate in network-centric operations. Provides continuous positions of friendly and hostile forces to expedite mission execution. Enables rapid re-tasking of aircraft to maximize efficiency of refueling operations.



**Significant Major Item Shortages**

PR	Nomenclature	Total Req'd	# Items Short	Item Cost	Total Shortage Cost	Rationale/Justification
5	Digital Radar Warning Receiver (RWR) (C-130/F-16/C-17)	298	298	\$1,000,000	\$298,000,000	ANG aircraft perform demanding missions in close proximity to radio frequency (RF) based threats. Combat plans rely heavily on airlift for logistical support to front-line troops, requiring mobility aircraft to operate closer to adversary RF surface-to-air missile systems. At present, ANG C-130s have limited to no RF detection capability, and ANG C-17s currently do not have onboard radar warning receiver (RWR). The current F-16 Block 40/42/50/52 electronic warfare (EW) suite processor computers were designed in the 1980s and are not configured to provide advanced EW systems integration. Increased situational awareness is needed to correlate onboard and off-board threat detection, terrain masking, and optimized dynamic rerouting capabilities to avoid or minimize exposure to threats. A RWR with geolocation capability in dense RF environments is critical for all ANG C-130H, C-130J, and C-17 aircraft. A fully automated and integrated electronic attack suite processor enables ANG Block 40/42/50/52 F-16C aircraft to fully integrate existing and planned upgrades to the F-16 EW suite.
6	Targeting Pod Upgrades	250	250	\$920,000	\$230,000,000	The ANG utilizes a large number of advanced targeting pods (ATP) across multiple aircraft types. ATPs give ANG aircraft precision targeting capability and the ability to get accurate coordinates of objects of interest, the ability to observe areas of interest, and an improved navigation capability, day or night. The ANG plans to utilize ATP capabilities on additional platforms. The ANG is also evaluating several ATP upgrades that will allow improved communications and sensing. ATP upgrades allow ANG platforms to take advantage of the new capabilities without incurring expensive Group A aircraft modification costs. ANG's goal is to obtain an open architecture in all of its ATPs. This will allow the utilization of available space for the latest technological advances and the ability to adapt ATPs to tomorrow's needs. Open architecture ATPs will also allow easy swapping of an ATP's components and software, thereby changing its capabilities based on mission requirements. ANG requires new ATPs for aircraft that do not have them, and modification of its current ATP inventory with new open architecture.

### Significant Major Item Shortages

PR	Nomenclature	Total Req'd	# Items Short	Item Cost	Total Shortage Cost	Rationale/Justification
7	RPA Ground Control Station (GCS) Modernization	34	34	\$353,000	\$12,002,000	The MQ-1/9 cockpit, referred to as the Ground Control Station (GCS), was originally designed only as a test control station for new Remotely Piloted Aircraft (RPA) technology. Without further development of the cockpit system, urgent operational and combat needs pressed it into service as the actual operating console for the GCS. The inefficiencies of the GCS cockpit limit aircrew ability to fly the aircraft and manage the mission. The GCS's awkward human machine interface was the cause of aircraft accidents, mission effectiveness degradation, and mission failure.
8a	F-16 (Pre-Block) Radar Warning Receiver	190	190	\$600,000.00	\$139,000,000	All ANG Blk 30/32 F-16 (Pre-block) aircraft electronic warfare (EW) suites are comprised of a series of EW equipment designed in the 1980s, which are incapable of providing adequate defensive situational awareness against modern threats. Currently, these pre-block F-16s utilize the ALR-69 for initial detection and generalized threat location awareness; however, this system is incapable of detecting in the required bandwidth, at the required sensitivity levels and against frequency agile threats fielded by our adversaries. Replacing the ALR-69 with the ALR-69A addresses these issues. This receiver, once integrated into the existing ALQ-213 interface, will serve as the Pre-block F-16s advanced EW suite backbone.
8b	F-16 Electronic Attack Pod	70	70	\$1,320,000	\$102,400,000	All ANG F-16s currently utilize antiquated analog jammers. These jammers are no longer technically capable of credibly disrupting, denying and/or deceiving adversary threats. Upgrading to a robust digitally responsive electronic attack pod will provide the sword to our EW Suite.
8c	F-16 Missile Warning System	70	70	\$1,100,000	\$87,000,000	ANG F-16s currently lack the ability to detect short range missiles fired from anything but legacy radar-assisted platforms. Adding an ALQ-213 integrated pylon hosted missile warning system, provides our ANG F-16s the means to rapidly react with onboard countermeasures to short-range missile launches.

### Significant Major Item Shortages

PR	Nomenclature	Total Req'd	# Items Short	Item Cost	Total Shortage Cost	Rationale/Justification
8d	F-16 EW Suite Central Computer	30	30	\$160,000	\$19,800,000	The ALQ-213 serves as brain to the F-16s EW Suite. It is currently fielded on the majority of ANG F-16s and this would serve as the final tranche to complete the fleet.
9	F-16 Infrared Targeting	72	72	\$1,500,000	\$157,000,000	All ANG F-16 aircraft require an Infrared Search and Track System (IRST) to execute defensive counter air (DCA), cruise missile defense, and offensive counter air missions effectively. IRST systems provide an additional method of target location, tracking, and identification of airborne threats regardless of radar cross section and presence of electronic attack. This is critically important given current adversaries focus and improvements on degradation and/or denial of the radio frequency spectrum
10	F-16 Advanced Datalink	320	320	\$500,000	\$170,000,000	ANG F-16s require secure, high speed, two-way data passage to operate in challenged/austere remote areas. Reception of off-board targeting, real time threat information, mission assignment changes, air tasking orders, mission data files, and the sharing of aircraft sensor data will be critical to success in the high end fight. A low latency, high bandwidth, resilient data pathway for information passage will increase the F-16s ability to operate in joint, multi-generation aircraft package while maximizing pilot situational and threat awareness, while also allowing real time dynamic targeting. Additionally, an improved data passage system will enable connectivity and communication to all players when F-16s are operating outside traditional communications architecture

## Significant Major Item Shortages

PR	Nomenclature	Total Req'd	# Items Short	Item Cost	Total Shortage Cost	Rationale/Justification
11	F-16 Simulator Upgrade	N/A	N/A	N/A	\$50,000,000	<p>ANG F-16s require the proliferation, operation, and sustainment of high fidelity aircrew simulators that are concurrent with aircraft operational flight program (OFP) and hardware. Currently, operational flight simulators do not exist at each F-16 unit and require TDY travel for aircrew training. Many collocated unit simulators only have two systems, which do not allow the execution of standard four ship tactics. Additionally, current simulators are lagging congruence with current aircraft software and hardware configurations. System capability upgrades (SCU) simulators supporting F-16C+ units are 3+ years behind the current aircraft software configuration, denying training of fielded complex aircraft and weapons systems such as APG-83, ASQ-236, ALQ-213, and SCU-10. F-16 squadrons upgrading to M7.3, and center display unit have no capability to learn or train to the systems such as ASQ-236 in their simulators. As aircraft OFPs continue to update at an increased rate, aircraft equipment and sensors continue to modernize, and new pilots arrive to units from an increasingly shortened pipeline, the disparity between the simulator and aircraft configuration will continue to degrade. Finally, lack of access to sufficient airspace, aircraft capable of replicating current and future threats in both capability and quantity, and modern surface-to-air threat systems, require training in a simulated environment.</p>
12	3D Audio	240	240	\$125,000	\$30,000,000	<p>The integration of noise-canceling and directional (3D) audio simplifies the interpretation of simultaneous radio calls by spatially separating aural warning and radio signals and provides angular cueing to ground and air threats when used in conjunction with a helmet-mounted cueing system. These capabilities are critical to operations in remote areas, dense threat environments, and dynamic Homeland Defense missions</p>

**Significant Major Item Shortages**

PR	Nomenclature	Total Req'd	# Items Short	Item Cost	Total Shortage Cost	Rationale/Justification
13	F-16 Night-Compatible Helmet - Mounted Display	154	154	\$90,000	\$18,860,000	ANG F-16 Block 40/42/50/52 require modern helmet-mounted displays (HMD) that are compatible with night vision devices. F-16 pilots are limited by the inability to rapidly cue sensors, build battlespace awareness, and safely operate in a night environment. Currently, pilots must choose between cueing or night vision. Helmet solutions combining these capabilities are required to fight near-peer adversaries in the modern battlespace. A modern HMD should also include a multi-color capability, display a large volume of symbols, and utilize a reliable spatial tracking system

### III. Air Force Reserve Overview

*The Air Force we need to defeat a pacing threat is not the Air Force we have today. Each budget cycle demands hard choices and tremendous change to build the Air Force the Nation Needs (AFNN).*

*– Lieutenant General John P. Healy, Chief of the Air Force Reserve*

#### A. Current Status of the Air Force Reserve

##### 1. General Overview

The intent in the Air Force Reserve (AFR) is to prioritize every dollar spent and allow maximum flexibility for commanders to lead. The Chief of AFR's top two priorities are to be *Ready Now* and to *Transform for the Future*.<sup>10</sup> In order for the AFR to be *Ready Now*, aircraft and equipment must be mission capable and modernized for the current fight. To *Transform for the Future*, legacy aircraft must be recapitalized and the AFR must modernize to counter future threats and increase capabilities to be a Total Force mission partner. As an integral component of the Total Force, the AFR provides accessible and experienced surge capacity at a fraction of the cost of a standing force. We execute the full spectrum of Department of the Air Force (DAF) missions, providing strategic depth to deter our adversaries, defend Americans and our allies, and defeat emerging threats. Our credible deterrence is predicated on maintaining equipment parity across the Total Force to respond to pacing threats. As an integral part of the Total Force, we are committed to the Chief of Staff's vision of Accelerate Change or Lose. We understand the need to make deliberate and aggressive changes to remain a viable Total Force in an era of strategic competition.<sup>11</sup>

##### Top Air Force Reserve Equipment Focus Areas

- Recapitalize weapons platforms and new equipment proportionally to ensure lethality and interoperability in the Total Force.
- Modernize aircraft and equipment to increase readiness, lethality, interoperability, agility, and survivability to support the Total Force.
- Invest in vehicles and support equipment to enhance readiness and accommodate recapitalization and modernization efforts.
- Invest in training simulators as aircraft modernize and force structure changes to best produce mission ready aircrew.

Total Force operations require Total Force readiness. Credible strategic depth depends on concurrent fielding of systems for the Active Component (AC) and the Reserve Components (RCs). Effective support to the Joint Force demands continuous upgrades to legacy platforms to assure interoperability and combat effectiveness. Rapid technological advancement and the wide proliferation of digital technology have

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<sup>10</sup> Chief of Air Force Reserve Task Order 2022-01, dated August 12, 2022.

<sup>11</sup> Air Force Reserve Posture Statement, dated June 7, 2022.

increased the tempo of strategic competition. These forces drive the need for continuous equipment modernization and equipment parity with the AC. In addition to concurrent fielding and recapitalization through modernization, the AFR must be able to divest its obsolete legacy platforms. Deliberate divestment avoids gaps in critical capabilities and frees up resources for investment in capabilities to match pacing threats. Asynchronous airframe divestment can cause significant per platform sustainment cost growth because of diminishing vendors for spare parts. It can also drive increased training costs as we are unable to hire qualified Regular Component members for obsolete legacy platforms.<sup>12</sup>

As new systems are brought online to enhance our combat capabilities, the Regular Component and RC will continue to rely on proven platforms in our inventory. Aircraft modernization and system upgrades will provide capabilities needed for strategic competition by ensuring survivability in contested environments. By right sizing the A-10 fleet, we will be able to reinvest personnel and operations and maintenance funds into platforms countering pacing threats. After decades of operating in permissive environments, the AFR must be prepared to conduct logistics under attack. The C-5 and C-17 are both vulnerable to radar guided missile threats. These threats can be mitigated by installing a layered defense and awareness suite and additional threat awareness, and self-defense systems would provide further protection for these aircraft. Our KC-135 fleet is also scheduled to continue Large Aircraft Infrared Countermeasures modifications during programmed depot maintenance. In addition to modernization, many of our airframes require upgrades, repairs, and component replacements to maintain airworthiness and extend service life. For example, the C-5 fleet's engine replacement program and its upgraded instrumentation have made it a highly capable aircraft, but legacy structural and mechanical issues continue to drive down its reliability rates. Funding weapon system sustainment actions is critical to both our mission capability and aircraft availability rates. Maintaining a mission capable aircraft fleet is essential to meeting operational taskings and training our personnel.<sup>13</sup>

The AFR provides the Total Force with a method to retain talent, by providing a continuity of service options for Active Component members who would otherwise separate. The Department of the Air Force understands the importance of retaining experience and talent and seeks to leverage the value that the Reserve Component brings to the Total Force. In addition to using Total Force partnerships to place newly trained members in units with highly experienced personnel, the Air Force is currently exploring flexible service options designed to allow members to easily transition between components of the Total Force. The AFR fully supports these efforts, which will benefit our Airmen, our readiness, and our national defense.<sup>14</sup>

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<sup>12</sup> Air Force Reserve Posture Statement, dated June 7, 2022.

<sup>13</sup> Ibid.

<sup>14</sup> Air Force Reserve Posture Statement, dated May 4, 2021.

Total Force Integration is exemplified by associations between geographically co-located AC and RC units. In this construct, equipment resources are officially assigned only to the lead AC unit but are shared between the lead and associate unit. Associations further enhance our interoperability and give the AC access to the experience resident in the more seasoned Reserve force. This ensures parity in equipment and training while providing cost savings and readiness benefits to both components.<sup>15</sup>

Currently, there are 79 associations between the Reserve and the AC. Most of these are classic associations, in which the AC is the lead organization. Active associations, in which the Reserve is the lead unit, comprise a little more than 12 percent of current associations. The RC and the AC have associations in nearly every major mission set and many training units, including every undergraduate pilot training wing, pilot instructor training, and major aircraft formal training units. We are also the lead component for the B-52 and C-5 Formal Training Units.<sup>16</sup>

Both the Future of Defense Task Force Report 2020 and Accelerate Change or Lose acknowledge that our technological advantages are rapidly eroding in a strategic environment that is defined by great power competition. Both these documents call for change to meet the requirements of the National Defense Strategy. To align AFR capabilities and force structure with the National Defense Strategy and to posture our force to execute tomorrow's missions, we developed the ***Air Force Reserve Future Force Framework***. This will enable us to deliberately organize, train, and equip our force to best prepare for conflict in highly contested environments. This framework directs mission optimization by assessing capabilities to determine which mission sets are best suited for the AFR to align and improve policy, planning and programming efforts. The framework also provides for tailored and prioritized training. This element synchronizes training efforts and capitalizes on technology to optimize unit training assemblies by enabling the completion of ancillary training requirements through virtual methods. Finally, the AFR will continue to leverage civilian sector strengths by capitalizing on member expertise and knowledge, cultivating industry partnerships, and tailoring recruitment efforts to develop the force of the future.<sup>17</sup>

Maintaining parity with the AC is essential to assuring the ability to operate in contested environments. The AFR consistently deploys alongside the AC for contingency operations and concurrent and proportional fielding of equipment allows for safe, efficient, and lethal operations. In those areas where the AFR will continue to operate legacy fleets, diminishing manufacturing sources will continue to hamper mission capable rates, and modernization where appropriate is key to survivability, interoperability, and lethality. The AFR can only provide strategic depth and operational support to the Joint Force in mission areas where our personnel are trained on the

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<sup>15</sup> Air Force Reserve Posture Statement, dated May 4, 2021.

<sup>16</sup> Ibid.

<sup>17</sup> Ibid.



required weapon systems, and we are most effective when we can operate interchangeably with our AC counterparts. The AFR provides daily operational support to the Joint Force, while maintaining a strategic force for sustained operations during major conflict. We provide surge capacity and rapid response capabilities, enabling the Joint Force to quickly adapt to operations tempo increases and unforeseen events, such as national disasters and contingencies. We also fill AC manning shortfalls and provide augmentation to meet short term manpower requirements. To effectively support the AC and connect with the Joint Force, the AFR must modernize simultaneously as the Air Force upgrades legacy platforms, adding capabilities required for the future fight. Our operational capabilities are tied to our ability to integrate into the Total Force, so we must maintain parity with the AC whenever possible.<sup>18</sup>

The AFR provides daily operational support to the Joint Force, while maintaining a ready and accessible strategic force for sustained operations during major conflict or surge operations during unforeseen events, such as national disasters and contingencies. Our abilities to meet current taskings and to supply a strategic staffing reserve are predicated on equipment parity and our readiness. As an operational reserve, we must maintain our readiness to support present-day missions while aligning our capabilities to meet the intent of the National Defense Strategy and prepare for future requirements. To meet these requirements, we remain ready to decisively employ traditional capabilities, while continuing to modernize our equipment to deter and defeat pacing threats.<sup>19</sup>

#### **a. Air Force Reserve**

The AFR provides critical Global Force Management (GFM) assets and personnel the Air Force needs to prepare for and defeat current and future threats. It comprises 70,300 personnel and 298 aircraft that make up three Numbered Air Forces and 34 combat wings. The AFR is headquartered at Robins Air Force Base, GA. Fourth Air Force provides leadership and oversight for the strategic airlift and air refueling aircraft assigned to the AFR and is based at March Air Reserve Base, CA. Tenth Air Force is responsible for the combat aircraft of the AFR and is located on Naval Air Station Joint Reserve Base Fort Worth, TX. Twenty Second Air Force maintains the tactical airlift wings of the AFR and is based on Dobbins Air Force Base, GA. The AFR supports the joint force through regular exercise support, deployments, and mobilization.

#### **b. Combat Air Forces (CAF)**

Preserving the advantage in strategic competition requires generating combat power in contested environments. Maintaining equipment parity with the Regular Component ensures the ability to match pacing threats. Legacy aircraft divestiture, delayed modernization programs, and limited delivery of replacement aircraft add substantial risk

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<sup>18</sup> Air Force Reserve Posture Statement, dated May 4, 2021.

<sup>19</sup> Air Force Reserve Posture Statement, dated June 7, 2022.

to the ability to sustain combat-credible air superiority and strategic surge capacity in the future.<sup>20</sup> The AFR provides a significant amount of the Total Force's combat capability, contributing a significant number of aircrews and aircraft in diverse mission areas that are maintained at the highest level of readiness to provide strategic depth, rapid surge capability, and daily operational support to the joint force. Additionally, the AFR supports the Total Force aircrew training pipeline with 100 percent of the B-52 Formal Training Unit (FTU); 50 percent of the A-10 FTU; and associations on the F-35, F-16, F-15E FTUs, and in Undergraduate Pilot Training (UPT). Currently, the AFR unit equipped capabilities include B-52H, A-10C, F-16C, HH-60G, HC-130, and Guardian Angel (GA) units. The AFR maintains classic associations with the AC in the operation of A-10C, AC-130J, B-1B, B-52H, C-146, E-3, F-15E, F-16C, F-22, F-35, C-146, MC-130H, MQ-9, RQ-4, and U-28 weapon systems.

**A-10C:** The A-10C Thunderbolt II is the Air Force's go-to ground attack fighter for close air support, forward air control-airborne, and combat search and rescue. The AFR currently operates 55 A-10C aircraft and is proposed to increase to 61 in FY 2024. There had been plans to reorganize the FTU and grow the number of AFR A-10s, but those plans have been put on hold for further review. AFR A-10 aircraft are dispersed between Whiteman AFB, MO, and Davis-Monthan AFB, AZ. The 924th Fighter Group at Davis-Monthan AFB, AZ provides 50 percent of the A-10 FTU pipeline to create new A-10 pilots for combat operations. AFR A-10s have exceeded an average age of 41 years and parts obsolescence and diminishing manufacturing sources have created sustainment challenges that cost valuable aircraft availability for training. In 2019, the Air Force concluded its re-winging program to reconstitute the wings on 173 A-10 aircraft, which included equipping 36 AFR A-10s with the enhanced wing assembly.

The AFR has used the NGREA to upgrade A-10 communications, aircraft avionics, and defensive systems to increase combat lethality and survivability. In the future, AFR will look to install the latest in GPS Anti-Jam technology and employ updated targeting pods that allow the employment of low collateral damage weapons. Aircraft and pilot survivability will be increased via radar and missile warning upgrades. To complement the improvements in advanced warning, AFR will prioritize modernizing the self-protection jamming pod and field modern expendable radar decoys. Currently, the AFR is fielding digital radio controllers, new satcom radios, and Link 16 for tactical data transfer.

**B-52H:** The B-52H Stratofortress has been the backbone of global attack and precision strike for the U.S. Air Force. AFR B-52s are an average age of 61 years, and current projections show the B-52H will remain in service through 2050. The B-52H Stratofortress serves as the workhorse of the conventional bomber fleet, possessing intercontinental range and the ability to employ accurate standoff weapons. The AFR operates 18 B-52H aircraft assigned to the 307th Bomb Wing, Barksdale AFB, LA.

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<sup>20</sup> Air Force Reserve Posture Statement, dated June 7, 2022.

Currently, the 307th Bomb Wing is the only unit that produces new aircrew for this aircraft through their FTU, providing 100 percent of the formal training for B-52 aircrew. Parts obsolescence and diminishing manufacturing sources have created sustainment challenges that cost valuable aircraft availability for training.

To keep the B-52H viable in any significant air campaign of the future and increase the aircrew's precision engagement capability, the LITENING advanced targeting pod color sensor needs to be upgraded from black and white targeting video to color to enhance the aircrew's ability to detect, acquire, and identify targets at long range. Additionally, there is a requirement for enhanced training capabilities through the digital mission recorder and color targeting pod emulator.

**F-16C/D:** The F-16 Fighting Falcon is a compact, highly maneuverable, multi-role fighter aircraft that provides air-to-air and air-to-ground combat capabilities. It is a relatively low cost yet high-performance weapon system capable of performing day/night precision strike, close air support, and air-to-air beyond-visual-range interception missions. The AFR currently operates 54 F-16s, residing at Naval Air Station Joint Reserve Base, Ft. Worth, TX, and Homestead Air Reserve Base (HARB), FL. The AFR's F-16s are pre-block aircraft which are some of the oldest in the fleet, approaching 35 years old. The AFR F-16C/D fleet is not projected for the service life extension program. The unit in Ft. Worth, TX, will divest its assigned F-16 aircraft in FY 2023 and is programmed to remission to the F-35 beginning in FY 2024. The unit at Homestead ARB, FL is not yet approved to divest its assigned F-16 fleet or remission to F-35 but is anticipated to be included in future plans by FY 2030.

AFR has used NGREA funds to purchase the active electronically scanned array (AESA) radar upgrade that offers advanced lethal capabilities and improved reliability and maintainability. We seek to install the latest in GPS Anti-Jam capability and employ the latest targeting pods. To improve survivability, we are upgrading radar warning and missile warning devices. To complement the advanced warning, we want to modernize the ALQ-131 self-protection jamming pod to enable advanced technology jamming techniques and field modern expendable radar decoys. To improve anti-jam and secure communications, we are fielding digital radio controllers, new MUOS capable satcom radios, and MIDS-J Link 16 tactical data links.

**HH-60G/W:** The HH-60G Pave Hawk's core mission is recovering personnel under hostile conditions, including search and rescue. The AFR operates and maintains 16 HH-60G aircraft at Patrick SFB, FL, and Davis-Monthan AFB, AZ. The HH-60G is now in sunset and will no longer receive NGREA investment. The AFR is scheduled to receive 10 HH-60Ws in FY 2024 to perform the AFR recovery mission.

**HC-130J:** The HC-130 is the only dedicated fixed-wing personnel recovery platform in the Air Force inventory. The HC-130 provides expeditionary, all weather personnel recovery capabilities, including the air refueling of recovery force helicopters and tactical delivery via airdrop or air-land of rescue personnel watercraft, all-terrain vehicles, and

direct assistance in advance of recovery vehicles. The AFR operates and maintains six HC-130J aircraft at Patrick SFB, FL. There is currently no plan to purchase HC-130J weapons systems flight simulators for Patrick SFB, which requires aviators to travel off station for proficiency training and will impact aircrew readiness.

**Guardian Angel:** Guardian Angel (GA) is uniquely designed and dedicated to conduct personnel recovery across the full range of military operations and during all phases of joint, coalition, and combined operations. These elite warriors are the soul of a non-aircraft, equipment based, human weapons system. The AFR GA personnel and equipment are assigned to Patrick SFB, FL, Davis-Monthan AFB, AZ, and Portland International Airport (IAP), OR. GA personnel recovery mission equipment is needed to replace and upgrade existing communication equipment, recovery equipment, and self-defense systems to increase effectiveness and survivability of GA personnel forces that are committed to the recovery of isolated personnel.

### **c. Mobility Air Forces (MAF)**

MAF include tactical and strategic airlift, air refueling, aeromedical evacuation, and mobility support capabilities. MAF forces comprise 54 percent of the AFR force structure, which contributes a significant number of trained and ready aircrews and support personnel. Currently the AFR maintains unit equipped capability on the C-5, C-17, C-40, C-130H/J, KC-46, KC-135, and WC-130J. The AFR provides 100 percent of the C-5M FTU at Joint Base San Antonio, TX. Additionally, the C-130H unit assigned to Youngstown ARS, OH, provides 100 percent of the DoD's aerial spray capability and the WC-130J unit collocated at Keesler AFB, MS, provides 100 percent of the DoD's weather reconnaissance mission capability. The AFR is a Total Force partner in classic associations at nine installations on the C-5M, C-17, C-130J, KC-10, KC-46, and KC-135. The AFR's mobility aircraft and personnel are critical to enabling the Air Force to meet global Combatant Commander requirements.

**C-130H:** The C-130H Hercules primarily performs the tactical portion of the cargo and personnel airlift mission. The aircraft is capable of operating from dirt landing strips and is the prime transport for airdropping troops and equipment into hostile areas. The C-130H is an average of 29 years old and resides completely in the AFR and ANG. The AFR owns and operates 31 C-130H aircraft at Dobbins ARB, GA; Youngstown ARB, OH; Peterson AFB, CO; and Minneapolis-St. Paul IAP, MN. Two AFR C-130H units are special mission platforms in addition to their cargo carrying and delivery roles. The 302nd Airlift Wing, Peterson AFB, CO, provides Modular Airborne Firefighting System capability and the 910th Airlift Wing, Youngstown IAP, OH, provides 100 percent of the Modular Aerial Spray System (MASS) capability. The MASS is tasked as the only large area fixed-wing aerial spray capability within DoD to control disease-carrying insects, pest insects, and oil spill dispersal.

The C-130H is currently on contract for the Avionics Modernization Program (AMP) Increment 2 upgrades. This program effort will upgrade the C-130H with a digital

avionics architecture, providing the AFR C-130Hs the ability to fly unrestrictive flight in worldwide airspace, improved Required Navigation Performance (RNP) capability, increased reliability, and reduced obsolescence. The AFR C-130H fleet is currently scheduled to receive propulsion upgrades, such as the 3.5 engine and NP2000 8-bladed propeller, to overcome their current deficiencies in high density altitude environments and mitigate the growing maintenance and sustainment costs of legacy systems.

**C-130J:** The C-130J Hercules is the latest and most technologically advanced model of the C-130, providing increased fuel efficiency, reliability, and maintainability and greater range than previous models while operating at 45 percent of the cost of a C-130H or less. The aircraft is capable of operating from dirt landing strips and is the prime transport for airdropping troops and equipment into hostile areas. The AFR currently owns ten C-130Js residing with the 403rd Wing, collocated on Keesler AFB, MS. The AFR is projected to begin growing the C-130J fleet beginning in FY 2024 as congressionally added C-130Js are received.

These aircraft have completed modernization of communications, navigation, and surveillance capabilities to meet international air traffic management and flight safety standards. To remain relevant in the future fight, mission effectiveness and situational awareness can be improved using mission computer upgrades that allow real time data transfer, voice, and data links. The C-130J has infrared countermeasures installed and adding a digital, advanced radar warning system will improve survivability in contested environments against radar guided missiles.

**WC-130J:** The WC-130J Hurricane Hunter is a C-130J transport configured with palletized weather instrumentation that collects weather data and provides vital tropical cyclone forecasting information as it penetrates tropical cyclones and hurricanes. An average weather reconnaissance mission might last 11 hours and cover almost 3,500 miles while the crew collects and reports weather data. The AFR is the sole DoD operator for the weather reconnaissance mission and operates 10 WC-130J aircraft from Keesler AFB, MS. The AFR provides direct support to National Hurricane and National Winter Storm operation plans.

These aircraft have completed modernization of communications, navigation, and surveillance capabilities to meet international air traffic management and flight safety standards. To improve effectiveness in storm reporting, the AFR would like to add real time image transfer capability to the aircraft. Currently, captured storm data cannot be transmitted until after landing. This data is more than three hours outdated when received. Real time data transfer will allow timely reporting during the critical time when storms are approaching the shore and ensure the best decisions can be made to protect civilian lives and property.

**C-5M:** The C-5M Super Galaxy is a strategic transport aircraft and is the largest aircraft in the Air Force inventory. Its primary mission is to transport cargo and personnel for the

Department of Defense. The AFR currently possesses 16 C-5M aircraft, split between Westover ARB, MA, and Joint Base San Antonio Lackland (JBSA Lackland), TX. The unit at JBSA Lackland provides 100 percent of the C-5M FTU pipeline aircrew training for the Total Force.

The modernization priorities within the AFR C-5 fleet include upgrades that enhance aircrew awareness, communication, and integration into the Combatant Commanders' network. Real Time in the Cockpit (RTIC), like the more commonly known Link 16, and updated radio communication (ARC-210), are essential to interoperability and mission success.

**C-17A:** The C-17A Globemaster III provides the Air Force with inter-theater and intra-theater airlift. It can perform combat airdrop and is able to land on short, austere airfields. The AFR owns 26 C-17As, stationed at March ARB, CA; Wright-Patterson AFB, OH; and Pittsburgh ARS, PA. To support the re-mission at Pittsburgh ARS, infrastructure, including aircraft simulators and C-17A support equipment, was purchased using a combination of regular appropriation and NGREA funds.

The C-17 modernization priorities include those upgrades that enhance aircrew awareness, communication, and integration into the Combatant Commanders' network, like Link-16, RTIC, and piloted ARC-210, which are essential to interoperability and mission success.

**C-40C:** The C-40C provides worldwide air transportation for the Executive Branch, congressional members and delegations, DoD officials, high-ranking U.S. and foreign dignitaries, and other numerous operations support requirements. The AFR operates four C-40C aircraft at Scott AFB, IL. The C-40C is now in sunset and will no longer receive NGREA investment.

**KC-135R:** The KC-135R Stratotanker provides worldwide air refueling, airlift, and aeromedical evacuation capabilities. The KC-135 is one of the oldest aircraft in the fleet and is scheduled to remain in the AFR inventory until 2040. The AFR operates the KC-135 from Grissom ARB, IN; March ARB, CA; Andrews AFB, MD; Tinker AFB, OK; Niagara Falls ARS, NY; and Beale AFB, CA. The tanker fleet is one of the most heavily tasked overseas to support current contingency operations and at home to act as a force extender to other aircraft getting to or coming home from the fight. The AFR is scheduled to divest aircraft due to recapitalization to the KC-46 at March ARB, CA.

It has been an AFR priority to fund defensive systems for this airframe to provide integrated self-protection against infrared missile threats. The Large Airframe Infrared Counter-Measures (LAIRCM) system is in the operational test phase and has been programmed for AC aircraft in the program of record. The LAIRCM has not been programmed for the AFR. Additionally, upgrading the aircraft's mission computer will allow voice, data link, and real time data transfer capabilities that will provide

battlespace integration to aircrews, ensuring situational awareness and enhancing mission effectiveness in the future fight.

**KC-46A:** The KC-46A is the first phase in recapitalizing the U.S. Air Force's aging tanker fleet. With greater refueling, cargo and aeromedical evacuation capabilities compared to the KC-135, the KC-46A will provide next generation aerial refueling support to Air Force, Navy, Marine Corps, and partner-nation receiver aircraft. The AFR is collocated at Seymour-Johnson AFB, NC and will have twelve aircraft by the end of FY 2023. March ARB, CA, has been selected as the next AFR location to receive the KC-46 as a replacement for their KC-135s.

#### **d. Agile Combat Support (ACS)**

ACS enables all other Air Force core functions by providing the essential capabilities and functions to deploy, establish, operate, and maintain the operations of an airbase and the associated services (sustain) and recover coalition air and space forces. The AFR provides deployable combat support and mission generation capability to the Air Force in various mission areas.

**AGILE COMBAT SUPPORT:** Mission ready vehicles and support equipment are required to adequately keep aircraft ready for combat and to provide training for Reservists. The AF has prioritized investments in other priorities and accepted risk in vehicle replacement and support equipment accounts, creating large shortfalls in both. In vehicles, the AFR has a \$20 million, 225 vehicle shortfall, accounting for vacancies and vehicles continuing operations beyond their designed lifecycle. In FY 2022, the AFR purchased 63 new vehicles, including 11 specialty vehicles across four locations with NGREA funds. The AFR spent \$2.3 million in NGREA funds for 5 maintenance and specialty trucks, a 44-passenger bus, a front end loader, 2 road graders, and 2 pavement machines.

Support equipment remains a challenge in the AFR. The current shortfall is \$128 million, including a \$37 million shortfall in aircraft avionics test equipment. The AFR spent \$2.6 million of NGREA funds in FY 2022 to purchase corrosion control equipment, weapons and munitions storage solutions, aircraft test equipment for C-130J units, and aircraft inspection and maintenance stands.

The diminished condition of support equipment also affects the warfighter's ability to support unit mobility commitments, base maintenance obligations, and training requirements. Civil engineering equipment for Rapid Airfield Damage Repair and RED HORSE units to support construction and maintenance of airfield runways, roads, taxiways, and building sites is insufficient. Without this equipment, RED HORSE cannot meet mission training demands to have fully qualified and proficient operators to fulfill real world requirements. Units have previously rented or leased equipment but found that their limited budgets did not provide for enough time to meet all of their training obligations. The AFR has purchased construction vehicles, front end loaders, graders,

and paving machines with NGREA funds to begin addressing readiness and training requirements.

The AFR maintains nine host base installations and these locations have the same security requirements as AC locations. Integrated Base Defense Security Systems (IBDSS) are critical for the AFR to maintain security at our locations and prepare for security operations when deployed. The AFR currently operates legacy security systems that provide poor protection of personnel and resources on the installation and prevent base security forces from addressing modern threats. In a deployed environment, it is imperative the AFR security forces have modern IBDSS system experience and tactical radios to integrate fully into the Total Force. To train and prepare for multi-domain threats, the current legacy IBDSS systems of the AFR need to be upgraded and replaced in instances where they have become obsolete.

## **2. Current Status of Equipment**

### **a. Equipment On-hand**

*Table 1 Consolidated Major Item Inventory and Requirements* provides projected AFR major equipment requirements and on-hand inventories to meet assigned missions.

### **b. Average Age of Major Items of Equipment**

*Table 2 Average Age of Equipment* provides the average age of major equipment items as of October 1, 2023. The average age of AFR aircraft ranges from 1 year for the KC-46A to 61 years for KC-135Rs and B-52Hs. As aircraft increase in age, there are corresponding increases in the requirements for Operations and Maintenance funding to maintain capability. Spare parts for legacy aircraft are not readily available because of the industrial base's limited ability to produce those parts only used in the military and for aircraft scheduled for divesture. These factors often lead to reliance on the Aerospace Maintenance and Regeneration Group (AMARG), a.k.a. the Boneyard, at Davis-Monthan AFB, to pull parts off retired aircraft to sustain the needs of the field.

### **c. Compatibility of Current Equipment with AC**

AFR aircraft require modernization and technology upgrades to continue to maintain readiness and lethality in the future. Technology upgrades in communications equipment and advanced data link capability will enable communications between 4th and 5th generation platforms and enable the RC to seamlessly provide support to Air Force and joint missions. Achieving and maintaining a technically compatible AFR with the AC is also critical to ensuring the Selected Reserve can train to the same standards and be ready to operate seamlessly across the Total Force.

### **d. Maintenance Issues**

AFR equipment maintenance remains a high priority. Due to fiscal realities, depot throughput limitations, high operations tempo, and aging equipment with diminishing manufacturing support, both the AC and RC are confronted with maintenance shortfalls



and backlogs. The Air Force's high operations tempo over the last 20 plus years has accelerated equipment degradation and accelerated the end of service life for aircraft. Maintenance issues most significantly affect the B-52, C-5M, C-130H, F-16C, and A-10C. AFR B-52s suffer from poor airframe component availability, increased depot flow times, and engines that are no longer supportable outside the Air Force depot system. This situation will not be remedied until the commercial engine replacement program is complete. The C-5M fleet of 16 aircraft faces component obsolescence and depot repair times that are twice their forecasted rates. This is driving down aircraft availability and driving up sustainment costs, which is especially burdensome on the AFR because of the small number of aircraft assigned. The AFR has relied on AC loaner aircraft to keep the total force FTU operating and support unit training/contingency support. The C-130H is a legacy aircraft that only resides in the ARC. Recent improvements to the engine and propeller systems have increased capability and modernized components, but other airframe and structural issues are beginning to become apparent from the age and operations tempo these aircraft have experienced. AFR F-16Cs are some of the oldest in the inventory and suffer from parts obsolescence as they are Block 30 and do not share full parts commonality with AC Block 40/50 aircraft. They are also suffering from airframe corrosion that is driving increased downtime for maintenance and depot operations. Lastly, the A-10C has been a workhorse over the last 20 plus years of contingency operations and is facing service life issues along with parts obsolescence because of the diminished manufacturing base for its components. For the A-10, fire control avionics and ATTACK replacement wings are necessary to prevent aircraft grounding. Nineteen of the 55 assigned A-10s will need the new wings, but there is not currently a plan to purchase additional replacement wings. Recapitalization with modern aircraft such as F-35 and C-130J helps to avoid significant maintenance costs and increases joint force support with more reliable aircraft.

Lapses in the availability of parts result in additional downtime and increased expense as the Air Force must new start contracts to initiate new production lines for low rate of production parts.

#### **e. Modernization Programs and Shortfalls**

*Table 8 Significant Major Item Shortages* addresses program details of specific requirements identified through the AFR Prioritized Integrated Requirements List (PIRL) process, specifically the AFR's unfunded or underfunded procurements and modernization programs that affect our ability to project force and generate readiness. The AFR list of modernization shortfalls prioritizes modernizing communications, improving aircraft defensive systems, upgrading radar and avionics across multiple platforms to maintain battlespace awareness, addressing shortfalls in support equipment and vehicles, and upgrading simulators and C-130 propulsion systems. Aircraft and support equipment require modernization to maintain or reverse degraded capabilities, adapt to evolving threats, improve safety and efficiency, and overcome materiel age, DMSMS, or obsolescence.

#### **f. Overall Equipment Readiness**

The AFR accomplishes its mission with a largely legacy fleet of aircraft that are an average of 30 years old and have minimal defensive systems, data links, or secure communication links to execute the mission in a contested environment. The fleet is ageing and the combination of accepted risk in weapons system sustainment (WSS), delayed recapitalization, and refocused priorities on the high-end fight mean fewer AFR aircraft are available now. The legacy F-16 Block 30 fleet is experiencing lower aircraft availability rates because of necessary depot maintenance and modifications. In addition, the C-5M fleet has experienced unexpected depot downtime as Program Depot maintenance (PDM) times have extended from a projected 366 days to over 800 days. This has added additional costs and strained the small AFR fleet. If the AFR is to remain a combat-ready force, we must continue to evolve and adapt. Our capability to deter, respond to, and eliminate threats relies on our ability to proactively and continuously develop advanced air, space, and cyber capabilities while honing the readiness and lethality of the force.

#### **g. Other Equipment Specific Issues: Diminishing Manufacturing Sources and Materiel Shortages (DMSMS)/Obsolescence**

DMSMS/obsolescence is an increasingly difficult problem for the Air Force, which affects readiness of AFR weapon systems disproportionately because the manufacturing lives of many critical items get shorter while the lifecycles of military weapon systems continue to be increased. As discussed in paragraph 2.b, *Average Age of Major Items of Equipment*, increasing weapon system lifecycles and the accompanying DMSMS issues are also an AFR issue. Across the Air Force, the AMARG Boneyard is used as a routine supply source on multiple platforms, from A-10 centralized integrated control units to major structural components like vertical stabilizers for C-130 aircraft.

Materiel readiness is an immediate and urgent concern for the warfighter. Missions are affected when equipment cannot be supported. It is unacceptable for an aircraft to be non-mission-capable because of a DMSMS issue. To allow a DMSMS situation to progress to the point of affecting a mission (because items are not available) does not align with the National Defense Strategy's line of effort to increase readiness and improve lethality and is an indication of ineffective management of DMSMS. In addition, ineffective DMSMS management can uncontrollably escalate the costs of items. Furthermore, if wholesale levels from suppliers are low, customer wait times substantially increase, not just at the local level but across the Air Force enterprise.

Traditionally, efforts to mitigate the effects of DMSMS have been reactive, addressing effects only when they are seen. This reactive approach to DMSMS solutions leads to decisions that put a premium on faster solution paths with attractive short-term gains to avoid system inoperability while ignoring the long-term paths that would lead to wide-scale solutions designed to avoid future DMSMS issues. To solve this issue with lower overall cost, DMSMS solutions must change from reactive to proactive. The building

blocks of effective proactive DMSMS management are established during the design and development of systems with investment into sustainment and eventual retirement plans.

## **B. Changes since the Last NGRER**

The FY 2022 Defense Appropriation Act improved the AFR's sustainment, modernization, and recapitalization efforts, yet there are still modernization gaps between AFR and AC aircraft and equipment. The AFR has used NGREA funds to complete the C-130H 3.5 engine upgrade, to purchase two Guardian Angel special operations boats and upgraded dive equipment, and to update the radios in the HH-60G. In the CAF portfolio, 3D audio has been installed on 27 F-16s aircraft and AESA radars have been purchased—four radar installs have been completed. There have been new purchases of ECM pods and five LITENING pods have been upgraded to be color image capable. The AFR has purchased 30 ALR 69A radar warning receivers and 54 pylon mounted missile warning receivers. For the A-10, 19 second gigabit Ethernet switch installations are complete, giving much needed capacity to wing weapons pylons and 35 updated external fuel tanks are on order to be delivered in FY 2025. Anti-Jam GPS and 3D audio upgrades will begin in Q2FY 2023. In the mobility aircraft portfolio, eight C-130H aircraft have completed the conversion to the NP-2000 propellers (funded through congressional adds). Six C-130Hs have had Digital Warning Receivers (ALR-69A) installed. Additional capability will be added to the C-5 fleet in FY 2023 with the first aircraft receiving the Real Time in Cockpit (RTIC) modifications. This modification continues to be installed on the KC-135 fleet in addition to three aircraft completing the LAIRCM modifications. The AFR purchased eleven vehicles and continued to purchase support equipment such as corrosion control equipment and improved aircraft inspection maintenance stands to help increase readiness and safety and offset equipment vacancies.

## **C. Future Years Program (FY 2024–FY 2026)**

### **1. FY 2023 Equipment Requirements**

*Table 1 Consolidated Major Item Inventory and Requirements* provides projected FY 2024–FY 2026 major equipment inventories and requirements. It reflects programming for the type and quantity of each major end item of equipment for the AFR.

### **2. Anticipated New Equipment Procurements**

*Table 3 Service Procurement Program – Reserve (P-1R)* lists planned versus actual procurements for the AFR. *Table 4 NGREA Procurements* provides AFR planned NGREA procurements for FY 2020–FY 2022.

### 3. Anticipated Transfers from AC to AFR

*Table 5 Projected Equipment Transfer/Withdrawal Quantities* lists planned AFR transfers for FY 2024–FY 2026. All projected additions are from previously programmed decisions.

### 4. Anticipated Withdrawals from AFR Inventory

*Table 5* also lists planned AFR major equipment withdrawals for FY 2024–FY 2026, including the force structure changes discussed in Section II, paragraph B of this chapter.

### 5. Equipment Shortages and Modernization Shortfalls at the End of FY 2023

*Table 1 Consolidated Major Item Inventory and Requirements* and *Table 8 Significant Major Item Shortages* provide AFR equipment inventories, shortfalls, and modernization requirements. While the AFR does not have any aircraft shortages, there are numerous vehicle and support equipment shortages. Of the aircraft assigned to the AFR, there are modernization shortfalls that could hinder the AFR defense against the threats in today's evolving environment. Many initiatives are already in place, including multi-domain secure data links that span multiple platforms, addressing the AFR's ability to interface and integrate with other components both in the air and on the ground. Many initiatives are already developed and just require the resourcing to complete the modifications. Several of these initiatives and modifications are ongoing, but not fully funded. For example, the AFR needs to modify its simulator fleet to keep pace with aircraft modernizations and ensure equivalent training for its pilot force proficiency.

## D. Summary

Our force structure, built to deter the Cold War foe, was able to meet the competition of non-peer conflict for nearly three decades. However, near-peer threats have now expanded the battlespace to new levels, including space and cyber. Our enemies have closed gaps in their capability and capacity, and they've made clear their intent to seize advantages at speed. With the Air Force's focus on multi-domain operations to maintain its competitive edge, the AFR's strategic depth and operational readiness will enable us to continue to play a pivotal role in the total force.<sup>21</sup>

For the AFR to remain a lethal and fully interoperable Total Force partner, aging fleets must be recapitalized via concurrent fielding with the AC and ANG and existing airframes must be modernized to keep them in the joint fight. The age of the AFR fleets has resulted in diminished manufacturing sources for aircraft spare parts, which will continue to plague these aircraft throughout their remaining life spans. Lastly, the AFR needs support vehicles and equipment to meet readiness requirements and updated training simulators to ensure our Airmen are highly trained and proficient. The Air Force

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<sup>21</sup> Air Force Reserve Posture Statement, dated May 4, 2021.

Reserve is a cost-effective force and will continue its excellent stewardship of American taxpayers' dollars.

## Consolidated Major Item Inventory and Requirements

*NOTE: This table provides a comprehensive list of selected major equipment items. It provides the projected inventory quantity on-hand (QTY O/H) at the beginning/end of the selected fiscal year (FY). It also provides the quantity required (QTY REQ) to meet the full wartime requirements of the Reserve Component. In accordance with Title 10, the QTY REQ number provides the recommendation as to the quantity and type of equipment that should be in the inventory of each Reserve Component. FY 2023 unit cost estimates are provided by the Military Departments.*

Nomenclature	Equip No.	Avg Unit Cost	Begin FY 2024 QTY O/H	Begin FY 2025 QTY O/H	Begin FY 2026 QTY O/H	End FY 2026 QTY REQ	End FY 2026 QTY REQ
<b>Air Refueling</b>							
Air Refueling, KC-135R	KC-135R	\$58,554,619	56	44	44	44	44
Air Refueling, KC-46A	KC-46A	\$154,655,794	12	19	24	24	24
<b>Air Support</b>							
Weather, WC-130J	WC-130J	\$52,960,487	10	10	10	10	10
<b>Airlift</b>							
Airlift, C-130H	C-130H	\$29,559,873	31	29	29	29	29
Airlift, C-130J	C-130J	\$65,420,877	12	14	14	14	14
Airlift, C-17A	C-17A	\$243,497,588	26	26	26	26	26
Airlift, C-5M	C-5M	\$258,644,526	16	16	16	16	16
Airlift, C-40C	C-40C	\$90,056,875	4	0	0	0	0
<b>Bomber</b>							
Bomber, B-52H	B-52H	\$42,788,056	18	18	18	18	18
<b>Fighter</b>							
Fighter, A-10C	A-10C	\$10,104,955	61	61	35	35	35
Fighter, F-16C	F-16C	\$10,589,690	25	25	25	25	25
Fighter, F-16D	F-16D	\$13,198,316	1	1	1	1	1
Fighter, F-35A	F-35A	\$99,361,078	3	20	26	26	26
<b>Rescue</b>							
Rescue, HH-60G	HH-60G	\$14,290,852	7	0	0	0	0
Rescue, HH-60W	HH-60W	46,717,799	10	10	10	10	10
Rescue, HC-130J	HC-130J	\$80,600,569	6	6	6	6	6

## Average Age of Equipment

*NOTE: This table provides the average age of selected major equipment items. The average age provides a projected average age of the fleet at the start of FY 2023.*

Nomenclature	Equip No.	Average Age	Remarks
<b>Air Refueling</b>			
Air Refueling, KC-135R	KC-135R	61.1	
Air Refueling, KC-40A	KC-40A	1.3	
<b>Air Support</b>			
Weather, WC-130J	WC-130J	21.4	
<b>Airlift</b>			
Airlift, C-130H	C-130H	29.2	
Airlift, C-130J	C-130J	18.2	
Airlift, C-17A	C-17A	21.9	
Airlift, C-5M	C-5M	34.4	
Airlift, C-40C	C-40C	14.1	
<b>Bomber</b>			
Bomber, B-52H	B-52H	60.7	
<b>Fighter</b>			
Fighter, A-10C	A-10C	41.5	
Fighter, F-16C	F-16C	34.8	
Fighter, F-16D	F-16D	34.9	
<b>Rescue</b>			
Rescue, HC-130J	HC-130J	2.2	
Rescue, HH-60G	HH-60G	31.7	

### Service Procurement Program - Reserve (P-1R)

*NOTE: This table provides a comparison of the dollar value of the FY 2021 request, the FY 2021 enacted amount; and, the actual amount spent on procurement for specific categories of RC equipment. All values are costs in millions. Deliveries of procured equipment normally take one to two years before they arrive in the inventory; e.g., items procured in FY 2023 are expected to arrive in RC inventories in FY 2024 or FY 2025.*

Nomenclature	Request	Enacted	Actual
Common Support Equipment	30	30	30
Other Aircraft	27	27	27
Airlift Aircraft	15	15	15
Strategic Aircraft	11	11	11
Organization and Base	10	10	10
Tactical Aircraft	5	5	5
Air Force Communications	5	5	5
Cargo and Utility Vehicles	3	3	3
Special Purpose Vehicles	3	3	3
Materials Handling Equipment	2	2	2
Depot Plant+Materials Handling Equipment	2	2	2
Base Maintenance Support	1	1	1
Special Comm-Electronics Projects	1	1	1
Personal Safety & Rescue Equip	0	0	0
Base Support Equipment	0	0	0
Passenger Carrying Vehicles	0	0	0
Electronics Programs	0	0	0
<b>Total</b>	<b>114</b>	<b>114</b>	<b>114</b>



## National Guard and Reserve Equipment Account (NGREA) Procurements

*NOTE: This table identifies the dollar value of planned equipment procurements with the National Guard and Reserve Account (NGREA). These funds are available for a three-year period from the year of appropriation. Deliveries of procured equipment normally take one to two years from the date of procurement before they arrive in the inventory.*

Air Force Reserve Defense Appropriations Act NGREA	FY 2021	FY 2022	FY 2023 <sup>1</sup>
CAF Helmet Mounted Cueing Systems	1,200,000	0	
CAF Communication and Datalink Upgrades	12,500,000	15,700,000	
CAF Avionics and GPS Upgrades	10,000,000	5,500,000	
CAF Defensive Systems Upgrades	21,000,000	15,000,000	
CAF Radar and Targeting Enhancements	22,215,000	5,000,000	
CAF Combat Operations Enablers	6,200,000	7,500,000	
MAF Communication and Datalink Upgrades	23,300,000	19,500,000	
MAF Avionics and GPS Upgrades	500,000	1,000,000	
MAF Defensive Systems Upgrades	20,200,000	25,750,000	
MAF Combat Operations Enabler	100,000	4,100,000	
Rescue Communication and Datalink Upgrades	1,000,000	1,100,000	
Guardian Angel Mission Equipment	435,000	1,000,000	
Special Mission	35,750,000	28,000,000	
Simulators & Training Devices	100,000	9,500,000	
Agile Combat Support - Support Equipment/Vehicles/Tac Equipment	500,000	16,350,000	
<b>Total AFR NGREA</b>	<b>155,000,000</b>	<b>155,000,000</b>	<b>150,000,000</b>

1. FY 2023 NGREA Spending Plan was not available at the time of publication

## Projected Equipment Transfer/Withdrawal Quantities

*NOTE: This table portrays the planned equipment transfers (Active to Reserve), withdrawals (-), and decommissioning (-). Transferred equipment is commonly called "cascaded equipment," or equipment that is provided to the RC once the AC receives more modern equipment. Although this table highlights a three-year period, many Services will not know exact quantities of transfers or withdrawals until year of execution, due to the uncertainty of the procurement/delivery cycle of new equipment.*

Nomenclature	Equip No.	FY 2024 Qty	FY 2025 Qty	FY 2026 Qty	Remarks
<b>Airlift</b>					
Airlift, C-130H	C-130H	-2	-2		(-4) Airlift conversion plan
Airlift, C-40C	C-40C		-4		(-4) Force Structure
<b>Fighter</b>					
Fighter, A-10C	A-10C	+6		-26	Fighter conversion plan Force Structure
Figher, F-35A		+3	+17	+6	(+26 )Carswell Conversion Force Structure
<b>Rescue</b>					
Rescue, HH-60G	HH-60G		-16		(-16) rescue mission conversion to (W)
Rescue, HH-60W	HH-60W		+10		(+10) Rescue
<b>Air Refueling</b>					
Tanker, KC135R	KC-135R	-2	-12		(-14) March ARB conversion to KC-46
Tanker, KC-46A	KC-46A		+7	+5	(+12) March ARB conversion

### FY 2019 Planned vs Actual Procurements and Transfers

*NOTE: This table compares planned Service procurements and transfers to the RC in FY 2020 with actual procurements and transfers. FY 2020 is selected as these are the most recent funds to expire. Because the procurement cycle is normally one to two years from funding to delivery, this table identifies only deliveries through the end of 2022. Procurement and NGREA columns reflect cost values in dollars. In FY 2020, \$1.3 billion of NGREA was reprogrammed by DoD.*

Nomenclature	Equip. No.	FY 2020 Transfers (# of items)		FY 2020 Procurements (\$s)		FY 2020 NGREA (\$s)	
		Plan	Actual	Plan	Actual	Plan	Actual
<b>FY 2020 Planned Transfers &amp; Withdrawals</b>							
Airlift, HH-60	HH-60G	+1	+1				
Airlift, HC-130	HC-130J	+1	5				
Tanker, KC-135R	KC-135R	-7	-7				
Tanker, KC-46A	KC-46A	+1	2				
<b>FY 2020 Service Procurement Programs – RC (P-1R) Equipment</b>							
<b>Modification of Inservice Aircraft</b>							
A-10				0	2,000,000		
B-1B				4,500,000	0		
C-130				7,360,000	1,544,000		
C-135				24,969,000	26,311,000		
F-15				33,876,000	50,015,000		
F-16				28,159,000	96,186,000		
F-22A				10,163,000	11,106,000		
Aircraft Replacement Support Equipment				4,185,000	26,602,000		
<b>Vehicular Equipment</b>							
Passenger Carrying Vehicles				193,000	203,000		
Medium Tactical Vehicle				1,744,000	1,228,000		
Cargo and Utility Vehicles				6,951,000	6,835,000		
Joint Light Tactical Vehicle				1,313,000	1,688,000		
Security And Tactical Vehicles				106,000	105,000		
Special Purpose Vehicles				5,214,000	5,204,000		
Runway Snow Removal And Cleaning Equipment				307,000	335,000		
Base Maintenance Support Vehicles				778,000	776,000		
<b>Electronics and Telecommunications Equipment</b>							
Air Traffic Control & Landing System				1,986,000	1,860,000		
Theater Air Control System Improvement				3,135,000	0		
Air & Space Operations Center (AOC)				500,000	987,000		
Base Information Transpnt Infrast (BITI)				4,819,000	8,292,000		
Tactical C-E Equipment				19,721,000	46,666,000		
<b>Other Base Maintenance and Support Equip</b>							
Personal Safety and Rescue Equipment				331,000	331,000		
Mechanized Material Handling Equipment				488,000	1,190,000		
<b>Total</b>				<b>170,522,000</b>	<b>297,312,000</b>		
<b>FY 2020 National Guard and Reserve Equipment Account (NGREA) Equipment</b>							
<b>Total</b>						<b>0</b>	<b>0</b>

**Major Item Of Equipment Substitution List**

*NOTE: This table identifies equipment authorized by the Service to be used as a substitute for a primary item of equipment. The table also identifies whether or not the item is deployable in wartime. This data meets the Title 10 requirement to identify substitutes that are not the most desired equipment item.*

Required Item Nomenclature	Reqd Item Equip No.	Substitute Item Nomenclature	Substitute Item Equip No.	FY 2023 Qty	Deployable?	
					Yes	No

**Service Does Not Use Substitution to Satisfy Major Item Equipment Requirements.**

**Significant Major Item Shortages**

*NOTE: This table provides a RC top ten prioritized (PR) shortage list for major equipment items required for wartime missions but which are currently not funded. It lists the total quantity required, the total unfunded requirement, the individual item cost, and the cost of the unfunded portion. This data is consistent with other unfunded equipment data submitted by the Service.*

PR	Nomenclature	Total Req'd	# Items Short	Item Cost	Total Cost / Cost Remaining	Rationale/Justification
1	Aircraft Defensive Systems (KC-135, F-16, A-10, C-130, C-5)	various	various	various	\$577,750,000 / \$387,700,000	<p>Proliferation of evolving anti-aircraft missile threats has outpaced many of the legacy AFR aircraft defensive missile systems. This places aircrew and mission success at increased risk. Current aircraft defensive systems to address the threat are: Large Aircraft Infrared Countermeasures (LAIRCM), ALR-69A Digital Radar Warning Receiver and fighter aircraft active IR Missile Warning Systems (MWS).</p> <p>Block-30 LAIRCM:                      C-130H - 25 @ \$4.5M = \$112.5M (\$112.5M Rem)                      C-130J - 10 @ \$3.5M = \$35M (\$35M Rem)                      KC-135 - 62 @ \$2M = \$128M (\$31M Rem)                      C-5 - 16 @ \$2M = \$32M (\$32M Rem)</p> <p>ALR-69A:                      F-16 - 27 @ \$2.25M = \$60.75M (\$30M Rem)                      A-10s - 56 @ \$0.9M = \$49.5M (\$42.7M Rem)                      KC-135 - 62 @ \$0.8M = \$51M (\$49M Rem)                      C-5 - 16 @ \$0.9M = \$14M (\$14M Rem)                      C-130Js - 10 @ \$0.8M = \$8M (\$6.8M Rem)</p> <p>Active IR MWS:                      F-16, 27 @ \$2M = \$54M (\$24.5M Rem)                      A-10s, 56 @ \$0.6M = \$33M (\$10.2M Rem)</p>
2	Link 16 (F-16, A-10, C-130H, C-130J, HC-130J)	210	210	\$590,000	\$59,130,000 / \$14,390,000	<p>Combatant Commanders expect all aircraft to have datalink integration with existing networks. Link-16 is the primary DOD Tactical Data Network (TDN) for tactical battlespace awareness by aircraft and command and control (C2) entities. Link-16 brings critical information to the pilot/aircrew such as friendly or hostile ground party locations along with other network aircraft location and associated data (heading, altitude, identification). Likewise, battlespace managers and ground parties may not have access to specific aircraft information without data link integration. Link 16 terminals installed @ \$0.59M each.</p>

Significant Major Item Shortages

PR	Nomenclature	Total Req'd	# Items Short	Item Cost	Total Cost / Cost Remaining	Rationale/Justification
						27 F-16s = \$15.93M (\$3.0M Rem) 56 A-10s = \$32.45M (\$26.4M Rem) 25 C-130Hs = \$8.75M (\$8.75M Rem)
3	Targeting Pod Upgrades LITENING and AN/ASQ 236 All Weather Targeting Pod	908	453	\$1,500,000 \$12,500,000	\$67,500,000/ \$67,500,000 . \$100,000,000/ \$250,000	AFRC utilizes advanced targeting pods (ATP) across multiple MDS. ATPs give aircraft precision targeting capability, the ability to acquire accurate coordinates of objects of interest, the ability to observe areas of interest, and an improved navigation capability in clear or obscured conditions, day or night. AFRC is also evaluating several ATP upgrades that will allow improved communications and sensing. ATP upgrades allow AFRC platforms to take advantage of the new capabilities without incurring expensive Group A aircraft modification costs. AFRC's goal is to obtain an open architecture in all of its ATPs. This will allow the utilization of available space for the latest technological advances and the ability to adapt ATPs to tomorrow's needs. Open architecture ATPs will also allow easy swapping of an ATP's components and software, thereby changing its capabilities based on mission requirements and aircraft availability. AFRC requires new ATPs for aircraft that do not have them, upgrades to current sensors, and modification of its current ATP inventory with new open architecture.
4	Radars (F-16)	27	23	\$3,100,000	\$85,000,000 / \$8,000,000	Current F-16 Block 30 radars have obsolescence/supportability problems that increase their maintenance cost and decrease their availability. A modern Actively Electronically Scanned Array (AESA) radar dramatically decreases maintenance cost and significantly increases availability, accuracy, lethality and allows better support of 5th Gen aircraft tactics.
5	Real Time Information in the Cockpit (RTIC) (C-5, KC-135, C-17)	various	various	various	\$140,500,000 / \$92,000,000	Communication upgrades that will provide aircrews the ability to report and receive battlespace and mission information.  16 C-5's - \$28.5M (\$20M Rem) 62 KC-135's - \$80M (\$40M Rem) 24 C-17's - \$32M (\$32M Rem)

Significant Major Item Shortages

PR	Nomenclature	Total Req'd	# Items Short	Item Cost	Total Cost / Cost Remaining	Rationale/Justification
6	Avionics Upgrades (A-10)	55	55	\$475,000	\$26,125,000 / \$21,900,000	A-10 low-definition black and white avionics displays are unable to match the signal quality of the information sent to them. Targets are being missed and pilots are flying closer to the threats in an attempt to gain positive identification. High Resolution Display (HRDS) significantly improve mission success and safety while reducing pilot workload.
7	Jam Resistant Global Positioning System (GPS) (KC-135, A-10 F-16, C-5)	various	various	various	\$26,060,000/ \$18,000,000	Aircraft Embedded GPS/INS (EGI) has significant parts obsolescence issues and new sophisticated jamming techniques can have serious implications for mission success. Updating KC-135, F-16, A-10, C-5 and C-17 EGI will provide robust SAASM capability now and lay a path to M-Code GPS when it becomes available.  62 KC-135 @ \$125K = \$8M (\$6.5M Rem) 54 F-16 @ \$46K = \$2.5M (\$2.0M Rem) 27 A-10 @ \$280K = \$7.56M (\$1.5M Rem) 16 C-5 @ \$200K = \$3.2M (\$3.2M Rem) 24 C-17 @ \$200K = \$4.8M (\$4.8M)
8	ARC -210 (KC-135, C-5, C-17, C-130H, C-130J, HC-130J)	various	various	various	\$35,500,000 / \$34,400,000	Modern cryptographic requirements and fundamental changes to satellite communications drive radio modernization. Beyond Line of Sight upgrade at \$0.1M each.  6 HC-130J = \$12M (\$2.4M Rem) 34 C-130H = \$10M (\$10M Rem) 10 C-130J = \$20M (\$4M Rem) 60 KC-135 = \$18M (\$6M Rem) 14 C-5 = \$4.5M (\$4.5M Rem) 24 C-17 = \$8M (\$8M Rem)
9	Simulators (C-5, HC-130, A-10)	various	various	various	\$70,500,000/ \$65,500,000	Current state of simulators (sims) losing effectiveness due to disparity with actual aircraft configurations. AFRC supports 23 simulators across the Total Force. Periodically, training requirements dictate either new or upgraded sims. Over time, the differences will continue to grow and render the sims less useful for mission readiness training. The challenges associated with tying Military Construction (MILCON) and Lead Command (LC) coordination to sim requirements delays purchases and delivery of capability. This impacts our ability to meet combatant commanders' requirements to accomplish their mission.

**Significant Major Item Shortages**

PR	Nomenclature	Total Req'd	# Items Short	Item Cost	Total Cost / Cost Remaining	Rationale/Justification
						C-5 Fuselage Trainer @ \$21.5M (\$21M Rem) HC-130J @ \$33M (\$33M Rem) Guardian Angel Freefall Trainer @\$7M (\$7M) Global Strike simulators @ \$9M (\$4.5M Rem)
10	Support Equipment	various	various	various	\$150,000,000/ \$150,000,000	Agile Combat Support (ACS) Critical Support Equipment (SE) shortfalls for unit training, sustainment of existing missions, and mission conversions. SE shortfalls range across all functional areas, and as the average age of SE increases, there is a direct correlation to a demand for more Operation and Maintenance funding to preserve the capability. \$150M (\$150M Rem)
11	Propulsion Upgrades (C-130 Propellers)	25	17	\$3,000,000	\$99,000,000/ (\$51M Rem)	The current C-130H propulsion system performs deficiently in high density altitude environments and drives excessive maintenance costs. It requires a comprehensive upgrade to: improve performance and reliability; increase fuel efficiency; reduce airframe fatigue due to excessive vibration; decrease maintenance costs; and increase safety margins during critical phases of flight. Replacing dated four-bladed propellers with improved, modular eight-bladed propellers (NP2000) will provide improved thrust for heavy weight and short field operations, while increasing fuel efficiency. \$99,000,000 (\$51M Rem)



## Chapter 6

### United States Coast Guard Reserve (USCGR)<sup>1</sup>

#### I. Coast Guard Overview

For more than two centuries, the United States Coast Guard (USCG) has performed increasingly complex missions in the most challenging marine environments. In that time, our responsibilities have continuously expanded to encompass every aspect of maritime governance. By statute, the USCG is an Armed Force, capable of operating in the joint arena at any time and functioning as a specialized service under the Navy in time of war or when directed by the president. The USCG leverages broad authorities, partnerships, and operational presence as a system to meet mission responsibilities. Employing our unique blend of military, law enforcement, humanitarian, and regulatory capabilities, we prevent incidents when possible and respond when necessary.

*Table 6-1* provides an overview of the programs listed in the 2013 Department of Homeland Security (DHS) Federal Program Inventory for the USCG and the corresponding 2002 Homeland Security Act missions that support them.

*Table 6-1. Coast Guard Programs and Missions*

DHS Program Inventory	USCG Missions (Homeland Security Act of 2002)
1. Defense Operations	Defense Readiness
2. Maritime Law Enforcement	Drug Interdiction
	Migrant Interdiction
	Living Marine Resources
	Other Law Enforcement
3. Maritime Prevention	Ports, Waterways, and Coastal Security—Prevention Activities
	Marine Safety
	Marine Environmental Protection—Prevention Activities
4. Maritime Response	Search and Rescue
	Marine Environmental Protection—Response Activities
5. Maritime Security Operations	Ports, Waterways, and Coastal Security—Operational Activities
6. Marine Transportation System Management	Aids to Navigation
	Ice Operations
7. Mission Support	All Missions

USCG assets and personnel have deployed and operated under the control of DoD commands to combat terrorism and conduct major combat operations, provide humanitarian assistance, and support other missions. USCG forces provide the combatant commanders (CCDRs) the capability to interact with many regional maritime

<sup>1</sup> The USCG Reserve is part of the Department of Homeland Security. This chapter is included at the request of DHS and questions about this chapter should be addressed to DHS.

partners and provide a maritime law enforcement capability in their areas of responsibility.

USCG forces are included in DoD contingency plans to mitigate redundancy and enable optimal use of the DoD capabilities resident in the national defense inventory. Use of USCG forces is driven by force readiness, national security requirements, and risk-based decision-making principles. DHS and DoD cooperate under three key memoranda of agreements, which facilitate the following defense operation imperatives:

- USCG inclusion in Maritime Homeland Defense Operations
- DoD support to USCG Maritime Security Operations
- USCG support of the National Military Strategy, specifically the following:
  - Maritime Interception and Interdiction Operations
  - Military Environmental Response
  - Port Operations, Security, and Defense
  - Theater Security Cooperation
  - Coastal Sea Control Operations
  - Rotary-Wing Air Intercept (RWAI) Operations
  - Combating Terrorism Operations
  - Maritime Operational Threat Response (MOTR) Support
  - Cybersecurity Operations.

As the USCG's only dedicated surge force, the Reserve Component (RC) is a contingency-based workforce that is trained locally and deployed globally to meet Coast Guard operational requirements. The USCG depends on its reservists to be ready to mobilize with critical competencies to support nine operational requirements: boat force operations, contingency preparedness and response, expeditionary warfare, law enforcement, environmental response, port security, intelligence, cyber, and mission support.

Units focused on defense support activities are fully staffed by reservists. Port Security Units (PSUs) are a key RC capability of the USCG's Defense Operations program. PSUs are expeditionary units able to operate independently or in conjunction with joint, combined, and host nation security forces and often integrate with the Navy's Maritime Expeditionary Security Forces. The 8 USCG PSUs are principally staffed with a RC complement of 145 reservists and supported by a full-time complement of 6 Active Component (AC) personnel. Also primarily staffed with reservists, the USCG Mobile Support Unit (MSU) provides expeditionary logistics support capability and resources deployed to support CCDRs. The MSU is air, sea, and land deployable within 96 hours after mobilization to support contingencies abroad and domestically.

## A. Coast Guard Planning Guidance

The USCG Commandant's Intent is outlined in the 2022 Coast Guard Strategy. It reflects and directly supports the National Security Strategy, DHS goals and priorities, and the National Military Strategy. To meet the nation's needs, the Coast Guard will remain adaptive and connected, both internally and with partners and stakeholders, to consistently and reliably serve the American public and support international partners in an ever-changing world. It will require the Coast Guard to be bold, innovative, collaborative, and willing to act in new ways to overcome global challenges.

The Coast Guard Strategy provides a framework for the Coast Guard to generate sustained readiness, resilience, and capability to enhance America's maritime safety, security, and prosperity. Following this strategy, the Coast Guard will transform its total workforce, sharpen its competitive edge, and advance its mission excellence.

Drivers of change are converging and increasing demands, risks, and opportunities for the Coast Guard while reshaping the communities where we live and work. To prepare for this rapidly changing operating environment, the USCG has focused on 10 key strategic plans and outlooks that address the most pressing concerns of the Service. The areas of focus were selected based on a risk-informed approach and our understanding of the strategic landscape. These are some of those plans:

- Western Hemisphere Strategy: Combating networks, securing borders, and safeguarding commerce.
- Ready Workforce Human Capital Strategy: Generating a modern and ready workforce, when and where needed, to meet the growing demand for Coast Guard services by improving how they are recruited, hired, developed, trained, and supported.
- Diversity and Inclusion Plan: Creating a diverse and inclusive workforce, an environment where all people are respected, valued, and empowered.
- Strategic Framework on Climate Change: Developing a strategic plan responding to and reducing impact to climate change, raising awareness, and building resilience to the risks that the amplifying effects of climate change will have on the maritime environment.
- Cyber Strategic Outlook: Enhancing cyber and critical infrastructure security and safeguarding the Marine Transportation System from cyber threats.
- Illegal, Unreported, and Unregulated (IUU) Fishing Strategic Outlook: Applying broad authorities, capabilities, and partnerships to be a global leader in the fight against IUU fishing.
- Arctic Strategic Outlook: Improving awareness, modernizing governance, and broadening partnerships in the Polar Regions.

- Maritime Commerce Strategic Outlook: Facilitating lawful trade and travel, modernizing aids to navigation and mariner information systems, and transforming workforce capacity and partnerships.

Additionally, climate change is a key Administration and DHS priority. The USCG is focusing on actions and opportunities to build resilience to climate-driven impacts via capacity-building partnerships and regulatory compliance measures in the maritime community. The USCG will plan for and be poised to respond aggressively to climate driven emergencies and invest in resilient internal infrastructure and a workforce prepared for climate-related impacts. A Strategic Framework on Climate Change plan was released in early 2023, outlining the USCG's strategy for managing the risks of and building resilience to climate change. The RC will contribute to the catalogue of the many things the USCG has done and is doing related to climate-related activities. Predictable and steady funding is critical to the USCG's ability to address these strategic priorities, especially within the RC. Some of the biggest challenges being addressed are the surge and mobilization requirements with the gap in Selected Reserve (SELRES) personnel. Over the last few years, the Coast Guard Reserve (CG-R) and the USCG as a whole have taken steps to boost accessions and retention using increased bonuses and other benefits (tuition assistance, credentialing, etc.). Long-term strategic accession and training decisions will continue to help mitigate operational risk across all mission areas that require RC support now and in the future.

## **B. Coast Guard Equipping Policy**

As an integrated workforce, the USCG AC owns and manages all equipment, including equipment allocated for the RC. The AC provides equipment for RC mobilizations and surge operations using existing unit inventories and supporting units and the procurement procedures of the USCG budget programmed through the DHS budget.

## **C. Plan to Fill Equipment Shortages in the RC**

In FY 2022, approximately 430 SELRES personnel performed active duty in support of overseas contingency operations, a decrease compared to FY 2021. The personnel footprint for planned PSU missions will remain approximately 115 members per deployment to support mission requirements at Guantanamo Bay, Cuba through Q3FY 2023. The USCG is considering future PSU employment in FY 2024 in other operational areas/theaters and accelerated timelines for recapitalizing personal protective equipment (PPE). Future plans to recapitalize boat platforms will begin in FY 2025.

## **D. Initiatives Affecting RC Equipment**

Worldwide initiatives, such as elevated military focus in countries such as Afghanistan, North Korea, and Russia and in the Indo-Pacific region, as well as the protection of shipping lanes in the Arctic, have increased concern for RC worldwide deployment because of anticipated shortages in the equipment needed to support such contingencies while maintaining existing statutory missions.

Progressively, climate resiliency requires the RC to have equipment and a workforce that is resilient and more prepared for the ever-evolving impacts of climate change and climate-driven emergencies. The USCG is actively incorporating climate change implications into requirements and capabilities development.

The SELRES is assigned to units supporting traditional USCG missions and to units providing defense support. At traditional units, reservists train and perform their duties alongside AC personnel. They obtain invaluable experience in their assigned mobilization competencies by regularly executing daily operations to meet USCG missions. The Boat Forces Reserve Management Plan (BFRMP), in particular, established a ratio of reservists-to-platforms to ensure assigned reservists were trained effectively. Additional analysis is needed to determine the appropriate number of platforms required if USCG operational planners determine more reservists with boat forces competencies are needed. The DoD-validated requirements for deployable USCG units providing defense support in recurring operations and in contingency operations exceed the capacity of a fully mobilized USCG RC. Without reallocating AC personnel, the RC would have difficulty filling all mobilization needs in an actual contingency. Additionally, emerging operational mission requirements from outside the Coast Guard's traditional statutory missions may produce added risks requiring additional analysis of critical Reserve missions and opportunities for interoperability with our interagency partners.

## II. Coast Guard Reserve Overview

### A. Current Status of the Coast Guard Reserve

#### 1. General Overview

Demand for Reserve support for planned and unplanned operations remains extremely high. Over the past three fiscal years, there has been a wide variety of needs for Reserve support. This includes several unplanned operations, such as support to DHS along the southern border, Operation Allies Welcome, COVID-19 incident management needs and operational backfills, ongoing multiyear emergency pollution response such as M/V Golden Ray, and the expansion of the Reserve Cyber program. Our regular planned operations included PSU deployments, support for multiple hurricane operations, general pollution response, parental leave support, and Active Duty Operational Support (ADOS) for steady-state mission needs at local commands. Historically, the Reserve has an annual average of nearly 2,900 activations per year, representing an annual activation rate of 41 percent of the authorized Selected Reserve (SELRES) strength and 47 percent of available SELRES personnel.

#### Top Coast Guard Reserve Equipping Challenges

- Recapitalization of Personal Protective Equipment (PPE)
- Increasing average age of boat fleet
- Equipment and PPE for USCG Police Department Program

In FY 2022, the USCG Reserve provided \$134.6 million for necessary expenses as authorized by law, which included administration and maintenance of the RC, personnel and training costs, and services. The Reserve Training Appropriation does not provide funding for PPE and machinery assets such as boats, vehicles, boat engines, and rescue equipment and is limited by its inclusion within the top-line budgetary limits set for the USCG by the Office of Management and Budget and DHS.

#### 2. Status of Equipment

##### a. Equipment On-hand

*Table 1 Consolidated Major Item Inventory and Requirements* identifies the major equipment inventories for FY 2024–FY 2026. The AC procures and accounts for all RC equipment.

The RC uses two main boat platforms, the Transportable Port Security Boat (TPSB) and the Response Boat–Small (RB-S).

USCG PSUs operate the TPSB for defense operations providing waterborne security and for port defense operations. The USCG operates a total of 58 Generation IV TPSBs at the PSUs; in Guantanamo Bay, Cuba; and at the Special Missions Training Center (SMTC) in Camp Lejeune, NC.

The RB-S II serves as the primary training and employment platform for reservists assigned to USCG stations throughout the nation. With a 10-year service life and the

first boat being delivered to the USCG in 2012, this fleet has a high priority for recapitalization. An assessment submitted in FY 2023 by USCG Surface Forces Logistics Center (SFLC) found that any RB-S II vessels at the end of their recommended service life can be serviceable for an additional 5 years. This is feasible if adequate funding for continued maintenance is provided. Additionally, the Office of Boat Forces (CG-731) is working with stakeholders to generate requirements for RB-S III, which is expected to enter Full Rate of Production (FRP) in FY 2028. There are 343 RB-S II boats operating throughout the USCG. They handle a wide range of Coast Guard missions close to shore, including search and rescue; law enforcement; Ports, Waterways, and Coastal Security (PWCS); drug and migrant interdiction; and environmental protection and response.



29' RB-S II



32' TPSB, Generation IV

#### **b. Average Age of Major Items of Equipment**

*Table 2 Average Age of Equipment* provides the projected average age of equipment at the start of FY 2024.

#### **c. Compatibility of Current Equipment with AC**

The PSU's primary mission is supporting DoD expeditionary warfare and homeland defense under Title 10. The units are manned, trained, and equipped to provide point defense of strategic shipping and critical infrastructure, and antiterrorism–force protection in Level I and II threat conditions. Their secondary mission is supporting PWCS under Title 14 authorities. To accommodate their unique mission requirements, TPSBs are maintained mostly at PSUs, but SMTC maintains two TPSBs used to fulfill training requirements. Additional TPSBs were purchased solely for the Guantanamo Bay, Cuba, mission. The weapons systems and navigation packages of the TPSBs require periodic maintenance, upgrades, and repairs. TPSB communications systems have capacities beyond those on standard USCG boat platforms to ensure compatibility with DoD during Title 10 operations. All other platforms and equipment used by the RC are shared with the AC.

#### **d. Maintenance Issues**

The transition to the Generation IV TPSB was completed in 2014. The USCG purchased seven additional TPSBs in 2015 and has implemented a depot-level maintenance plan that continually rotates TPSBs out of theater to spread the operational hours evenly across the fleet and to facilitate the additional required maintenance. Enrolling the TPSB into the USCG internal maintenance and repair program has helped ensure availability of the training platforms. Costing \$4.2 million for a 5-year contract, this program can provide full servicing of up to eight TPSBs each year. Six vessels were successfully serviced in FY 2022. Parts availability in Guantanamo Bay has been adequate, but there is room for improvement. PSU leadership can request changes or additions to the spare parts lists through the Small Boat Product Line (SBPL), which has extended the useful life of these boats to 15 years.

#### **e. Modernization Programs and Shortfalls**

##### **i. RB-S II and TPSB Generation IV Boat Fleet**

The USCG continues to pursue replacement of its aging boat platforms, weapons, and other equipment. Once procured and fielded, the RC will require additional training to become proficient on the new equipment and to maintain operational readiness.

The USCG SBPL has achieved fully integrated logistics support for the RB-S II and TPSB Generation IV boat fleet. The acquisition for new RB-S II and TPSB Generation IV vessels is underway. The Capability Analysis Report for Response Boats has been completed with the Missions Needs Statement to begin in January of FY 2023. This will then lead into the Concept of Operations and Operational Requirements Documents for both programs, which are expected to be completed in FY 2024. Low-Rate Initial Production (LRIP) for RBS-III is targeted for FY 2027, with FRP targeted for FY 2028. The LRIP for the TPSB will be FY 2028 and the FRP for FY 2029.

##### **ii. USCG RC Maritime Enforcement Specialist Police Department (PD) Program**

The Property Clause of the United States Constitution (U.S. CONST. art. IV, § 3, cl. 2) states “Congress shall have Power to dispose of and make all needful Rules and Regulations respecting the territory or other property belonging to the United States.” Pursuant to this power, Congress has enacted statutes requiring military departments to protect military installations and property. Statute 14 U.S.C. §504(a) (2) and (e) grants the USCG Commandant general powers to “maintain and operate” Coast Guard base and shore facilities and protect these facilities with police departments.

Leading up to FY 2022, global terrorist events had created critical force protection (police) personnel gaps at USCG bases, driving increased demand for reservists with law enforcement skillsets. To eliminate continuing gaps and to exploit the training capacity bases can provide reservists, the USCG established the Reserve Component Maritime Enforcement Specialist Coast Guard Police Department (CGPD) Program.



The program was designed to present a constant visible force protection, and law and order presence to deter, detect, and prevent criminal activity onboard Coast Guard property or as mission dictates. The program is the first of its kind and designates specific billets with competency requirements to augment base or installation force protection personnel. A major benefit is that CGPD training is the same level and type for reservists designated for global force protection mobilization at USCG PSUs, and so will provide a much-needed resource to eliminate reoccurring personnel gaps at PSUs slated for deployment.

Training funds for the new program have already been included in the FY 2024 Reserve Training Fund. However, the associated equipment and PPE requirements are unfilled. Multiple resource proposals through the AC are under consideration. The AC manages all equipment for the Coast Guard total force and resource proposals. These equipment needs are included in *Table 1* and are listed as significant in *Table 8* as a protective measure to meet predicted FY 2026 equipment and PPE shortages.

#### **f. Overall Equipment Readiness**

The USCG has made strides in the PSU community to recapitalize, upgrade, and standardize major equipment systems. However, a high operating tempo over the last 15 years supporting expeditionary and domestic contingencies has created a need to replace aging and rapidly degrading equipment. Continual use in a harsh deployed environment has demonstrated the need for asset rotation and depot-level maintenance plans to ensure continued viability. This program requires consistent funding of operation and maintenance accounts to conduct maintenance on the boat platform on a routine basis. Maximum availability of operational boats for maintaining tactical proficiency and weapons qualifications is imperative for RC personnel to attain required qualifications. The TPSB Generation IV is at the middle of its lifecycle, with an average age of approximately 8 years per platform. Maintenance funding for all eight PSUs is currently provided through the Operations and Support appropriation as part of the Enduring Overseas Mission funding (\$11.4 million) and USCG Base and Standard Support Level funding (\$2.6 million) and is critical to sustaining equipment required for expeditionary operations that support Operational Plan (OPLAN) deployments.

Maximizing the availability of operational platforms for RC training extends beyond concerns with maintenance cycles. The integrated nature of the USCG results in competition for available platform hours on non-organic resources for the Reserve. The prioritization between domestic mission execution and Reserve readiness training is understandably skewed toward mission execution. Unit training officers and Reserve managers coordinate training to the greatest extent possible. However, unplanned mission requirements do result in reduced platform availability for Reserve training.

## **B. Changes since the Last NGRER**

The Reserve Training Fund experienced slight growth in FY 2022, rising to a level of \$134.6 million from the \$130.7 million appropriated in FY 2021, continuing a trend of modest increases through several fiscal years.

## **C. Future Years Program (FY 2024–FY 2026)**

### **1. FY 2024 Equipment Requirements**

*Table 1 Consolidated Major Item Inventory and Requirements* provides projected FY 2024 through FY 2026 inventories and requirements for major equipment. All equipment is procured and accounted for by the AC.

### **2. Anticipated New Equipment Procurements**

Refer to *Table 1* for FY 2024.

### **3. Anticipated Withdrawals from RC Inventory**

Refer to *Table 1* for FY 2024.

### **4. Remaining Equipment Shortages and Modernization Shortfalls at the End of FY 2026**

*Table 1 Consolidated Major Item Inventory and Requirements* and *Table 8 Significant Major Item Shortages* provide RC equipment inventories, shortfalls, and modernization requirements.

USCG unit operations and maintenance fund managers include PPE in annual budget requests. Funding for PPE is based on a 5-year cycle, which provides the unit enough funding to outfit completely each member with new and serviceable equipment at the end of a 5-year period. The 5-year cycle was developed in part based on the equipment service life and member assignments and transfers.

The AC uses operation and maintenance funds to provide PPE for both AC and RC personnel. The replacement cycle for AC personnel is 3 years while RC replacement occurs every 5. The Reserve Training Fund does not fund PPE for RC personnel. Approximately 4,700 filled positions or 67 percent of the RC have mobilization requirements requiring PPE to conduct USCG operations. To meet RC PPE requirements, the USCG must program \$6.032 million for annual budget execution, but in FY 2022 the Service only marked \$1.330 million for this purpose (a \$4.702 million difference). Funding for USCG PPE is not indexed with inflation within the base budget and, as a result, buying power is reduced over time. Additionally, the cost of PPE has increased substantially and has been factored into the FY 2023 budget need.

*Table 6-2* details the FY 2024 PPE funding shortfall. It is important to note that PSUs require personal equipment related to their expeditionary missions in addition to regular PPE. This additional equipment (ballistic protection, uniforms, and CBRN equipment) is

purchased as part of the Coast Guard’s base funding allocated for Defense Related Activities. If the Coast Guard’s Defense Related Activity funding is reduced in future budgets, the USCG will need to engage in a risk-based analysis to determine if maintaining this level of personnel readiness is the most effective allocation of limited resources. Another important note for this table is that the PPE lifecycle has changed from 5 years to 4 years, increasing the total per year cost.

The absence of PPE funding can diminish Reserve mobilization readiness and negatively impact the ability to safely train. Reservists must be properly outfitted to perform USCG operations safely to achieve and maintain their mobilization competencies.

*Table 6-2. Coast Guard FY 2023 PPE Funding for the RC*

Unit/PPE Type	Cost	# of Personnel	Total per 4 Year Cycle	Total per Year (÷4)
Ashore (Reserve) Basic Ensemble (Boat Station)	\$2,807	1,956	\$5,490,492	\$1,372.62
Ashore (Reserve) Cold Ensemble (Boat Station)	\$2,032	1,265	\$2,570,480	\$642,620
Sector Ops (Reserve) Basic Ensemble	\$2,807	1,183	\$3,320,681	\$830,170.25
Sector Ops (Reserve) Cold Ensemble	\$2,032	725	\$1,473,200	\$368,300
Tactical (Reserve) Basic/Cold Ensemble (PSU)	\$4,839	796	\$3,851,844	\$962,961
PSU Ballistic Protection Systems	\$4,400	1,160	\$5,104,000	\$1,006,720
PSU MOPP 4	\$2,000	1,160	\$2,320,000	\$457,600
<b>PPE per Person Total</b>		<b>8,245</b>	<b>\$24,130,697</b>	<b>\$6,032,674</b>
<b>Total per 4 Year Cycle</b>	<b>\$24,130,697</b>			
<b>Total per Year (÷4)</b>	<b>\$6,032,674</b>		<b>Estimated FY 2023 Shortfall</b>	
<b>Total Dedicated to PPE in FY 2022</b>	<b>\$1,330,599</b>			<b>(\$4,702,075)</b>

All members of the USCG must wear specific equipment when conducting law enforcement missions. The AC provides equipment to conduct these missions to both the AC and RC using individual unit operation and maintenance funds. As with PPE, the RC does not procure law enforcement gear for RC members. The cost to outfit each member is approximately \$2,000.

#### D. Summary

The USCG depends on the Reserve force to be ready within 48 hours to mobilize for Title 14 contingency response and to be ready in 30 days for Title 10 for national security events. The critical competencies are focused on boat force operations, contingency preparedness and response, expeditionary warfare, law enforcement,

environmental response, port security, intelligence, cyber, and mission support. The USCG RC is fully integrated with the AC. Both components collaboratively train and jointly conduct day-to-day operations. This ensures Reserve members are properly trained for contingency operations and allows the USCG RC to augment the AC.

The USCG RC will continue to be an invaluable force, ready to perform the missions critical to maritime homeland security, national defense (domestic and expeditionary), and domestic disaster operations. Predictable and steady funding is critical to sustaining USCG operational integration, which is essential to responding to various contingencies and fulfilling the security demands of the nation.

## Consolidated Major Item Inventory and Requirements

<p><i>NOTE: This table provides a comprehensive list of selected major equipment items. It provides the projected inventory quantity on-hand (QTY O/H) at the beginning/end of the selected fiscal year (FY). It also provides the quantity required (QTY REQ) to meet the full wartime requirements of the Reserve Component. In accordance with Title 10, the QTY REQ number provides the recommendation as to the quantity and type of equipment that should be in the inventory of each Reserve Component. FY 2024 unit cost estimates are provided by the Military Departments.</i></p>							
Nomenclature	Equip No.	Unit Cost	Begin FY 2024 QTY O/H	Begin FY 2025 QTY O/H	Begin FY 2026 QTY O/H	End FY 2026 QTY O/H	End FY 2026 QTY REQ
<b>Port Security Units (PSU)</b>							
AN/PRC-117G Wideband, Multiband, Multi-mission Tactical Boat Radio	1	\$18,750	56	56	56	56	56
Fly Away Kit (Portable Satellite Communications Kit)	2	\$5,329	4	4	4	4	4
AN/PRC-152A Wideband, Handheld, Networking Radio	3	\$15,392	288	288	288	288	288
Power Amplifier RF-7800UL-V150 (1 per PRC-117G radio)	4	\$20,000	32	32	32	32	32
M4-Variant Rifle	5	\$1,100	956	956	965	956	956
SIG P229R DAK 9mm Pistol	6	\$660	540	540	540	540	540
Deployable Medical Kits	7	\$111,000	8	8	8	8	8
Portable Armory	8	\$75,000	8	8	8	8	8
Portable loading ramps	9	\$14,780	24	24	24	24	24
Portable Scales	10	\$9,380	48	48	48	48	48
All Terrain Forklift	11	\$171,000	8	8	8	8	8
Polytetrafluoroethylene 32' Transportable Port Security Boat (TPSB) Covers	12	\$1,200	56	56	56	56	56
Vehicle, F550 Stake-bed (1 per unit)	13	\$56,000	8	8	8	8	8
Vehicle, F450 Pickup (5 per unit)	14	\$46,000	40	40	40	40	40
Generators with Distribution Panel	15	\$44,000	24	24	24	24	24
32' Transportable Port Security Boat (TPSB)	16	\$500,094	56	56	56	56	56
Utility Trailer (1 per unit)	17	\$7,000	8	8	8	8	8
Searchlight Set	18	\$7,700	8	8	8	8	8
Tactical Field Lighting Sets	19	\$5,100	8	8	8	8	16
Counter, Frequency (DC to 500HHZCW)	20	\$4,461	8	8	8	8	8
Analyzer, Communication	21	\$4,390	8	8	8	8	8
Computer, Laptop	22	\$4,000	16	16	16	16	16
Fuel Bladder 3K Gallons	23	\$3,885	24	24	24	24	24
Water Buffalo	24	\$47,000	8	8	8	8	8
Forklift (non all-terrain)	25	\$42,000	8	8	8	8	8
Fuel Containment Boom	26	\$2,200	24	24	24	24	32
ISU 90 Shipping Container	27	\$8,600	176	176	176	176	176
Unity Triband Radio	28	\$5,000	110	110	110	110	110
Base X Shelter (6D31)	29	\$86,428	112	112	112	112	112
Water Bladder, 2K-gallon capacity	30	\$8,776	8	8	8	8	8
Palm Infrared, Thermal Imager	31	\$9,450	0	0	0	0	16
<b>USCG Boat Forces</b>							
RB-S II	32	\$343,435	343	343	343	343	343
<b>Mobile Support Units (MSU)</b>							
Trailers, Tools / Equipment / Maintenance	33	\$150,000	1	1	1	1	1

## Consolidated Major Item Inventory and Requirements

Nomenclature	Equip No.	Unit Cost	Begin FY 2024 QTY O/H	Begin FY 2025 QTY O/H	Begin FY 2026 QTY O/H	End FY 2026 QTY O/H	End FY 2026 QTY REQ
Truck, Stake-bed Class 8	34	\$135,000	4	4	4	4	4
Truck, Stake-bed	35	\$55,000	2	2	2	2	2
Generator, 240kW	36	\$120,000	4	4	4	4	4
Forklift, 10,000 lb	37	\$90,000	1	1	1	1	1
Forklift, Telescoping	38	\$71,000	1	1	1	1	1
Trailer, Administrative Support	39	\$86,463	2	2	2	2	2
Trailer, Maintenance Shop	40	\$83,688	7	7	7	7	7
Trailer, Logistic Support Parts	41	\$58,462	6	6	6	6	6
Trailer, Open Bulk Storage	42	\$49,600	4	4	4	4	4
Trailer, 30ft Flatbed	43	\$14,000	1	1	1	1	1
Portable Welding/Cutting Shops	44	\$45,000	1	1	1	1	1
Generator, Magnum 25kW	45	\$10,000	4	4	4	4	4
CONEX Boxes, 40' X 8'	46	\$30,000	2	2	2	2	2
CONEX Boxes, 20' X 8'	47	\$12,000	6	6	6	6	8
CONEX Boxes, 8' X 8'	48	\$10,000	0	2	2	2	3
Power Distribution Center	49	\$12,000	4	4	4	4	4
AC&R Repair and Service Kits	50	\$10,000	2	2	2	2	2
DC Kit, Compressed Air - Diesel Powered	51	\$9,000	1	2	1	1	1
DC Kit, Diesel Powered Welder	52	\$3,000	1	1	1	1	1
Computer, Laptop	53	\$2,000	2	2	2	2	2
Gator, 6X6 Diesel Terrain Vehicle	54	\$6,500	3	3	3	3	3
Generator, Light Tower	55	\$10,000	10	10	10	10	10
Generator, 46Kw	56	\$33,000	2	2	2	2	2
Generator, 60Kw , Load Sharing	57	\$35,000	8	8	8	8	8
Microgrid Feeder Kit 60Kw	58	\$51,000	4	4	4	4	4
Base X Shelter (6D31) Command	59	\$27,966	1	0	0	0	0
Base X Shelter (505) Maintenance	60	\$24,190	1	0	0	0	0
Drash Shelter (6S)	61	\$18,300	5	0	0	0	0
Alaska Tent Kit XP (Includes ECU)	62	\$40,000	12	15	15	15	15
Environmental Control Unit (ECU), Drash	63	\$92,131	1	0	0	0	0
Loading Scale Kit	64	\$16,000	1	1	1	1	1
Air Craft Loading Ramp sets	65	\$15,000	2	2	2	2	2
<b>Special Missions Training Center (SMTC)</b>							
AN/PRC-152A Wideband, Handheld, Networking Radio	66	\$15,392	25	25	25	25	25
Water Buffalo	67	\$47,000	2	2	2	2	2
32' Transportable Port Security Boat	68	\$500,094	2	2	2	2	2
Environmental Control Unit (ECU), HP-2C/338 IPT	69	\$130,497	5	5	5	5	5
Portable Observation Post	70	\$65,000	2	2	2	2	2
Computer, Laptop	71	\$2,000	5	5	5	5	2
UTV, 6X6 Diesel Terrain Vehicle	72	\$15,000	3	3	3	3	2
TCCC Tommaniquian	73	\$40,000	2	2	2	2	2
Zumro Model 284 (Tent)	74	\$40,255	3	3	3	3	3
Zumro Model 600 (Tent)	75	\$62,500	4	4	4	4	4

**Consolidated Major Item Inventory and Requirements**

Nomenclature	Equip No.	Unit Cost	Begin FY 2024 QTY O/H	Begin FY 2025 QTY O/H	Begin FY 2026 QTY O/H	End FY 2026 QTY O/H	End FY 2026 QTY REQ
Zumro Model 860 (Tent)	76	\$72,300	2	2	2	2	2
<b>Police Department/Security Program (New)</b>							
Fly Away Kit (Portable Satellite Communications Kit)	77	\$5,329	0	0	0	5	5
AN/PRC-152A Wideband, Handheld, Networking Radio	78	\$15,392	0	0	0	25	25
Power Amplifier RF-7800UL-V150 (1 per PRC-117G radio)	79	\$20,000	0	0	0	25	25
M4-Variant Rifle	80	\$1,100	0	0	0	25	25
SIG P229R DAK 9mm Pistol	81	\$660	0	0	0	25	25
Deployable Medical Kits	82	\$111,000	0	0	0	5	5
Portable Armory	83	\$75,000	0	0	0	5	5
Utility Trailer (1 per unit)	84	\$7,000	0	0	0	5	5
Searchlight Set	85	\$7,700	0	0	0	10	10
Tactical Field Lighting Sets	86	\$5,100	0	0	0	10	10
Computer, Laptop	87	\$4,000	0	0	0	5	5
Fuel Bladder 3K Gallons	88	\$3,885	0	0	0	5	5
Water Buffalo	89	\$47,000	0	0	0	5	5
ISU 90 Shipping Container	90	\$8,600	0	0	0	25	25
Unity Triband Radio	91	\$5,000	0	0	0	25	25
Base X Shelter (6D31)	92	\$86,428	0	0	0	10	10
Water Bladder, 2K-gallon capacity	93	\$8,776	0	0	0	5	5
Palm Infrared, Thermal Imager	94	\$9,450	0	0	0	5	5
Generator, 240kW	95	\$120,000	0	0	0	5	5
Generator, Magnum 25kW	96	\$10,000	0	0	0	5	5
CONEX Boxes, 20' X 8'	97	\$12,000	0	0	0	5	5
Generator, Light Tower	98	\$10,000	0	0	0	5	5
Base X Shelter (6D31) Command	99	\$27,966	0	0	0	5	5
Base X Shelter (203)	100	\$8,392	0	0	0	5	5
Portable Observation Post	101	\$65,000	0	0	0	5	5
Body Armor	102	\$521	0	0	0	25	25
5.11 Jacket	103	\$238	0	0	0	25	25
Duty Belt (Complete Setup) *includes baton and OC	104	\$446	0	0	0	25	25
Flex Cuffs	105	\$57	0	0	0	25	25
PD Apparel/Gear	106	\$254	0	0	0	25	25
Kevlar Helmet	107	\$240	0	0	0	25	25
Lvl 4 Body Armor	108	\$180	0	0	0	25	25
Inspection Mirrors	109	\$25	0	0	0	25	25
Handheld Search Wands	110	\$215	0	0	0	25	25
Narcotic Inspection Kits	111	\$280	0	0	0	25	25
Portable AlcoholSensor	112	\$450	0	0	0	5	5
Portable Inspection X-Ray	113	\$39,000	0	0	0	5	5
Gas Masks	114	\$924	0	0	0	25	25
ATV/UTV	115	\$12,000	0	0	0	5	5
Deployable Vehicle Kit (Lights/Siren/Magnets)	116	\$1,517	0	0	0	5	5
Night Vision Goggles	117	\$10,000	0	0	0	10	10

## Consolidated Major Item Inventory and Requirements

Nomenclature	Equip No.	Unit Cost	Begin FY 2024 QTY O/H	Begin FY 2025 QTY O/H	Begin FY 2026 QTY O/H	End FY 2026 QTY O/H	End FY 2026 QTY REQ
Handheld Spot Lights	118	\$552	0	0	0	10	10
Camel Backs/Hydration systems	119	\$54	0	0	0	25	25
Field Desks	120	\$1,500	0	0	0	5	5
Sand Bags (per 100)	121	\$235	0	0	0	25	25
Unmanned Aerial System and Training	122	\$1,950	0	0	0	5	5
Meals Ready to Eat (per 24)	123	\$131	0	0	0	5	5
Riot Control Helmets	124	\$215	0	0	0	25	25
Riot Control Shields	125	\$273	0	0	0	25	25
Riot Protective Body Armor	126	\$2,720	0	0	0	25	25
Spare Batteries (packs of 3)	127	\$5	0	0	0	100	100
Flashlights	128	\$104	0	0	0	100	100
ChemLights	129	\$11	0	0	0	100	100
Uniforms (CGPD Allowance)	130	\$600	0	0	0	25	25
Checkpoint Mobile Guard Shack (Self-Contained)	131	\$185,000	0	0	0	5	5
5" Shoulder Patches	132	\$1.51	0	0	0	100	100
3 1/2" Shoulder Patches w/Velcro	133	\$1.50	0	0	0	100	100
3 1/2" Shoulder Patches w/out Velcro	134	\$1.75	0	0	0	100	100
3 1/2" CGSF Badges w/out Velcro	135	\$1.20	0	0	0	100	100
3 1/2" CGSF Badges w/Velcro	136	\$2.00	0	0	0	100	100
6"x10" CGSF Back Patches w/Velcro	137	\$8.20	0	0	0	100	100
3 7/8" x 2 1/2" Security Force Shoulder Patches with Velcro	138	\$2.50	0	0	0	100	100
Security Force Badge (Metal)	139	\$62	0	0	0	50	50



# USCGR

## Average Age of Equipment

Table 2

*NOTE: This table provides the average age of selected major equipment items. The average age provides a projected average age of the fleet at the start of FY 2024.*

Nomenclature	Average Age	Remarks
<b>Port Security Units (PSU)</b>		
AN/PRC-117G Wideband, Multiband, Multi-mission Tactical Boat Radio	7	
AN/PRC-152A Wideband, Handheld, Networking Radio	5	
Portable Armory	8	
All Terrain Forklift	6	
Vehicle, F550 Stake-bed (1 per unit)	9	
Vehicle, F450 Pickup (5 per unit)	9	
Generator 125kW with distro panel (3 per unit)*	9	
32' Transportable Port Security Boat (TPSB)	10	
Tactical Field Lighting Sets	10	
Counter, Frequency (DC to 500HHZCW)	17	
Analyzer, Communication	15	
Fuel Bladder 3K Gallon	14	
Water Buffalo	5	
Fuel Containment Boom	9	
ISU 90 Shipping Container	10	
Unity Triband Radio	5	
Base X Shelter (6D31)	10	
All Terrain Vehicle, Gator (1 per unit) *	7	
Aircraft loading ramps*	9	
<b>USCG Boat Forces</b>		
RB-S II	5	
<b>Mobile Support Units (MSU)</b>		
Trailers, Tools / Equipment	12	
Truck, Stake-bed Class 8	3	
Truck, Stake-bed	1	
Generator, 240kW	13	
Forklift, 10,000 lb	15	
Forklift, Telescoping	1	
Trailer, Administrative Support	11	
Trailer, Maintenance Shop	11	
Trailer, Logistic Support Parts	11	
Trailer, Open Bulk Storage	11	
Portable Welding/Cutting Shops	13	
Generator, Magnum 25kW	13	
CONEX Boxes, 40' X 8'	20	
CONEX Boxes, 20' X 8'	7	
CONEX Boxes, 8' X 8'	15	
Power Distribution Center	6	
AC&R Repair and Service Kits	10	

# USCGR

## Average Age of Equipment

Table 2

Nomenclature	Average Age	Remarks
DC Kit, Compressed Air - Diesel Powered	2	
DC Kit, Diesel Powered Welder	11	
Computer, Laptop	3	
Gator, 6X6 Diesel Terrain Vehicle	10	
Generator, Light Tower	2	
Generator, 46Kw	2	
Generator, 60Kw , Load Sharing	1	
Microgrid Feeder Kit 60Kw	4	
Base X Shelter (6D31) Command	9	
Base X Shelter (505) Maintenance	14	
Drash Shelter (6S)	14	
Alaska Tent Kit (Includes ECU)	2	
Environmental Control Unit (ECU), Drash	14	
Loading Scale Kit	2	
Air Craft Loading Ramp sets	2	
Generator, Microsilent 12kW *	16	
<b>Special Missions Training Center (SMTC)</b>		
AN/PRC-152A Wideband, Handheld, Networking Radio	5	
Water Buffalo	11	
32' Transportable Port Security Boat	10	
Environmental Control Unit (ECU), HP-2C/338 IPT	6	
Portable Observation Post	11	
Computer, Laptop	4	
UTV, 6X6 Diesel Terrain Vehicle	3	
TCCC Tommaniquian	4	
Zumro Model 284 (Tent)	N/A	Item has been ordered
Zumro Model 600 (Tent)	N/A	Item has been ordered
Zumro Model 860 (Tent)	N/A	Item has been ordered
<b>Police Department/Security Program (New)</b>		
Fly Away Kit (Portable Satellite Communications Kit)	5	
AN/PRC-152A Wideband, Handheld, Networking Radio	5	
Power Amplifier RF-7800UL-V150 (1 per PRC-117G radio)	5	
M4-Variant Rifle	20	
SIG P229R DAK 9mm Pistol	20	
Deployable Medical Kits	5	
Portable Armory	8	
Utility Trailer (1 per unit)	Indef	
Searchlight Set	10	
Tactical Field Lighting Sets	10	
Computer, Laptop	4	
ISU 90 Shipping Container	20	
Unity Triband Radio	5	
Base X Shelter (6D31)	10	

# USCGR Average Age of Equipment

Table 2

Nomenclature	Average Age	Remarks
Palm Infrared, Thermal Imager	5	
Generator, 240kW	15	
Generator, Magnum 25kW	15	
CONEX Boxes, 20' X 8'	8	
Generator, Light Tower	20	
Base X Shelter (6D31) Command	10	
Base X Shelter (203)	10	
Portable Observation Post	20	
Body Armor	7	
5.11 Jacket	10	
Duty Belt (Complete Setup) *includes baton and OC	5	
PD Apparel/Gear	5	
Kevlar Helmet	5	
Lvl 4 Body Armor	5	
Handheld Search Wands	5	
Narcotic Inspection Kits	3	
Portable AlcholoSensor	10	
Portable Inspection X-Ray	10	
Gas Masks	10	
ATV/UTV	10	
Deployable Vehicle Kit (Lights/Siren/Magnets)	10	
Night Vision Goggles	20	
Handheld Spot Lights	10	
Riot Control Helmets	20	
Riot Control Shields	20	
Riot Protective Body Armor	20	
Flashlights	10	

**Service Procurement Program - Reserve (P-1R)**

*NOTE: This table provides a comparison of the dollar value of the FY 2021 request, the FY 2021 enacted amount; and, the actual amount spent on procurement for specific categories of RC equipment. All values are costs in millions. Deliveries of procured equipment normally take one to two years before they arrive in the inventory; e.g., items procured in FY 2023 are expected to arrive in RC inventories in FY 2024 or FY 2025.*

Nomenclature	Request	Enacted	Actual

**Table 3 not applicable for USCGR**

**National Guard and Reserve Equipment Account (NGREA) Procurements**

*NOTE: This table identifies the dollar value of planned equipment procurements with the National Guard and Reserve Account (NGREA). These funds are available for a three-year period from the year of appropriation. Deliveries of procured equipment normally take one to two years from the date of procurement before they arrive in the inventory.*

Defense Appropriations Act NGREA	FY 2021	FY 2022	FY 2023

**Table 4 not applicable for USCGR**

**Projected Equipment Transfer/Withdrawal Quantities**

*NOTE: This table portrays the planned equipment transfers (Active to Reserve), withdrawals (-), and decommissioning (-). Transferred equipment is commonly called "cascaded equipment," or equipment that is provided to the RC once the AC receives more modern equipment. Although this table highlights a three-year period, many Services will not know exact quantities of transfers or withdrawals until year of execution, due to the uncertainty of the procurement/delivery cycle of new equipment.*

Nomenclature	Equip No.	FY 2024 Qty	FY 2025 Qty	FY 2026 Qty	Remarks

**Service has no planned transfers or withdrawals for the years FY 2024 thru FY 2026**

**FY 2019 Planned vs Actual Procurements and Transfers**

*NOTE: This table compares planned Service procurements and transfers to the RC in FY 2020 with actual procurements and transfers. FY 2020 is selected as these are the most recent funds to expire. Because the procurement cycle is normally one to two years from funding to delivery, this table identifies only deliveries through the end of 2022. Procurement and NGREA columns reflect cost values in dollars. In FY 2020, \$1.3 billion of NGREA was reprogrammed by DoD.*

Nomenclature	Equip. No.	FY 2020 Transfers (# of items)		FY 2020 Procurements (\$s)		FY 2020 NGREA (\$s)	
		Plan	Actual	Plan	Actual	Plan	Actual

**USCGR had no planned or actual transfers or procurements of major equipment during FY 2020**

**Major Item of Equipment Substitution List**

*NOTE: This table identifies equipment authorized by the Service to be used as a substitute for a primary item of equipment. The table also identifies whether or not the item is deployable in wartime. This data meets the Title 10 requirement to identify substitutes that are not the most desired equipment item.*

Required Item Nomenclature	Required Item Equip No.	Substitute Item Nomenclature	Substitute Item Equip No.	FY 2023 Qty	Deployable?	
					Yes	No

**Service Does Not Use Substitution to Satisfy Major Item Equipment Requirements.**



## Significant Major Item Shortages

*NOTE: This table provides a RC top prioritized (PR) shortage list for major equipment items required for wartime missions. It lists the total quantity required, the total unfunded requirement, the individual item cost, and the cost of the unfunded portion. This data is consistent with other unfunded equipment data submitted by the Service.*

PR	Nomenclature	Total Req'd	# Items <sup>1</sup> Short	Item Cost	Total Shortage Cost	Rationale/Justification
1	Police Department/Security Program (New)	1	1	\$6,402,218	\$6,402,218	New Initiative. Multiple Items. Please refer to the cost breakdown provided in Table 1 and the narrative in the report.
2	Palm Infrared, Thermal Imager	21	21	\$9,450	\$198,450	Needed for PSU Shoreside Security Divisions to maintain perimeter security and entry control points for life support areas (base camps).
3	Tactical Field Lighting Sets	16	8	\$5,100	\$40,800	2 sets required by each PSU for tactical Safety and Security
4	Fuel Containment Boom	32	8	\$2,200	\$17,600	3 sets required by each PSU for air/sea/rail mobility and adherence to USAF requirements.
5	CONEX Boxes, 20' X 8'	8	2	\$12,000	\$24,000	Replacing 2 CONEX boxes of this size, per year for the MSU
6	CONEX Boxes, 8' X 8'	3	3	\$10,000	\$30,000	Replacing 3 CONEX boxes of this size

1. Shortage items are required for AC recapitalization of outdated equipment. The AC manages all equipment for the Coast Guard Total Force.

## **Appendix A**

### **Report Requirements, Terminology, and Definitions**

#### **III. Report Requirements**

##### **A. Overview of Statutory Requirement**

The DoD Authorization Act of 1982 (Public Law 97-86), as amended, established the requirement for DoD to provide an annual report to the Congress, by March 15<sup>th</sup> of each year, on the status of National Guard and Reserve equipment; hereafter referred to as the NGRER. The Goldwater-Nichols DoD Reorganization Act of 1986 amended Title 10 of the United States Code (U.S.C.) placing the reporting requirement under Section 115(b). The Congress in Public Law 103-337 transferred reporting requirements to a new Subtitle E, Reserve Components, Part I, Chapter 1013, which was re-designated Section 10541. In compliance with the FY 1993 National Defense Authorization Act (NDAA), Section 1134, Title XI, the NGRER was expanded to include a description of the current status of equipment incompatibility between the Active Component (AC) and Reserve Component (RC), the effect of that level of incompatibility, and the plan to achieve full compatibility. Finally, the FY 2008 NDAA, Sections 351(a), 351(c)(1), and 1826 added additional National Guard equipment reporting requirements to the NGRER. Sections 351(a) and 351(c)(1) added the requirement for an assessment of the extent to which the National Guard possesses the equipment required to suppress insurrections (10 U.S.C. §§ 251–253), provide assistance in cases of weapons of mass destruction or terrorist attacks (10 U.S.C. § 12304(b)), or to repel invasions, suppress rebellions, or execute the laws of the United States (10 U.S.C. § 12406) in an emergency or major disaster. Section 1826 of the FY 2008 NDAA also required a statement of the accuracy of past National Guard equipment inventory projections, and a certification from the Chief of the National Guard Bureau setting forth the inventory of equipment items that were due to be procured in the preceding fiscal year but were not received.

This report is prepared by the Office of the Assistant Secretary of Defense for Readiness with the assistance of the Department of the Army, the Department of the Navy, the Department of the Air Force, and the Department of Homeland Security (United States Coast Guard).

##### **B. Current Law**

The section below is an excerpt from Section 10541, Title 10, U.S.C. Changes required by the FY 2008 NDAA are highlighted.

National Guard and Reserve Component Equipment: Annual Report to Congress

(a) *The Secretary of Defense shall submit to the Congress each year, not later than March 15, a written report concerning the equipment of the National Guard and the reserve components of the armed forces for each of the three succeeding fiscal years.*

(b) *Each report under this section shall include the following:*

(1) *Recommendations as to the type and quantity of each major item of equipment which should be in the inventory of the Selected Reserve of the Ready Reserve of each reserve component of the armed forces.*

(2) *A statement of the quantity and average age of each type of major item of equipment which is expected to be physically available in the inventory of the Selected Reserve of the Ready Reserve of each reserve component as of the beginning of each fiscal year covered by the report.*

(3) *A statement of the quantity and cost of each type of major item of equipment which is expected to be procured for the Selective Reserve of the Ready Reserve of each reserve component from commercial sources or to be transferred to each such Selected Reserve from the active-duty components of the armed forces.*

(4) *A statement of the quantity of each type of major item of equipment which is expected to be retired, decommissioned, transferred, or otherwise removed from the physical inventory of the Selected Reserve of the Ready Reserve of each reserve component and the plans for replacement of that equipment.*

(5) *A listing of each major item of equipment required by the Selected Reserve of the Ready Reserve of each reserve component indicating –*

(A) *the full war-time requirement of that component for that item, shown in accordance with deployment schedules and requirements over successive 30-day periods following mobilization;*

(B) *the number of each such item in the inventory of the component;*

(C) *a separate listing of each such item in the inventory that is a deployable item and is not the most desired item;*

(D) *the number of each such item projected to be in the inventory at the end of the third succeeding fiscal year; and*

(E) *the number of non-deployable items in the inventory as a substitute for a required major item of equipment.*

(6) *A narrative explanation of the plan of the Secretary concerned to provide equipment needed to fill the war-time requirement for each major item of equipment to all units of the Selected Reserve, including an explanation of the plan to equip units of the Selected Reserve that are short of major items of equipment at the outset of war.*

*(7) For each item of major equipment reported under paragraph (3) in a report for one of the three previous years under this section as an item expected to be procured for the Selected Reserve or to be transferred to the Selected Reserve, the quantity of such equipment actually procured for or transferred to the Selected Reserve.*

*(8) A statement of the current status of the compatibility of equipment between the Army reserve components and active forces of the Army, the effect of that level of incompatibility on combat effectiveness, and a plan to achieve full equipment compatibility.*

*(9) (Added by FY 2008 NDAA, Sections 351(a) and 351(c)(1)) An assessment of the extent to which the National Guard possesses the equipment required to perform the responsibilities of the National Guard pursuant to sections 331, 332, 333, 12304(b) and 12406 of this title in response to an emergency or major disaster (as such terms are defined in section 102 of the Robert T. Stafford Disaster Relief and Emergency Assistance Act (42 U.S.C. 5122)). Such assessment shall—*

*(A) identify any shortfall in equipment provided to the National Guard by the Department of Defense throughout the United States and the territories and possessions of the United States that is likely to affect the ability of the National Guard to perform such responsibilities;*

*(B) evaluate the effect of any shortfall on the capacity of the National Guard to perform such responsibilities in response to an emergency or major disaster that occurs in the United States or a territory or possession of the United States; and*

*(C) identify the requirements and investment strategies for equipment provided to the National Guard by the Department of Defense that are necessary to plan for a reduction or elimination of any such shortfall.*

*(c) Each report under this section shall be expressed in the same format and with the same level of detail as the information presented in the annual Future Years Defense Program Procurement Annex prepared by the Department of Defense.*

*(d) (Added by FY 2008 NDAA, Section 1826) Each report under this section concerning equipment of the National Guard shall also include the following:*

*(1) A statement of the accuracy of the projections required by subsection (b)(5)(D) contained in earlier reports under this section, and an explanation, if the projection was not met, of why the projection was not met.*

*(2) A certification from the Chief of the National Guard Bureau setting forth an inventory for the preceding fiscal year of each item of equipment—*

*(A) for which funds were appropriated;*

*(B) which was due to be procured for the National Guard during that fiscal year; and*

*(C) which has not been received by a National Guard unit as of the close of that fiscal year.*

*(10) (Added by FY 2019 NDAA, Section 111) National Guard and Reserve Component Equipment Report*

*(a) IN GENERAL.—Section 10541(b) of title 10, United States Code, is amended by adding at the end the following new paragraph:*

*“(10) A joint assessment by the Chief of Staff of the Army and the Chief of the National Guard Bureau on the efforts of the Army to achieve parity among the active component, the Army Reserve, and the Army National Guard with respect to equipment and capabilities. Each assessment shall include a comparison of the inventory of high priority items of equipment available to each component of the Army described in preceding sentence, including—*

*“(A) AH–64 Attack Helicopters;*

*“(B) UH–60 Black Hawk Utility Helicopters;*

*“(C) Abrams Main Battle Tanks;*

*“(D) Bradley Infantry Fighting Vehicles;*

*“(E) Stryker Combat Vehicles; and*

*“(F) any other items of equipment identified as high priority by the Chief of Staff of the Army or the Chief of the National Guard Bureau.”*

#### **IV. Report Objective**

Based upon the law, the Office of the Assistant Secretary of Defense for Manpower and Reserve Affairs (Reserve Integration), with concurrence from all Services, has identified the following objectives:

- Provide the Services’ plan to equip their Reserve forces in a time of constrained DoD budgets.
- Concentrate on FY 2023–FY 2025 RC requirements, procurements, and changes.
- Provide an overview of current RC equipment from three perspectives:
  - Current status of equipment on-hand
  - Future year equipment procurements for FY 2023–FY 2025
  - Remaining shortfall for FY 2025 and beyond.
- Focus primarily on major items of equipment.

## V. Report Contents

### A. Overview (Chapter 1)

Chapter 1 presents a composite DoD perspective on National Guard and Reserve equipment and serves as the executive summary of the report.

### B. Service Narratives and Data Tables (Chapters 2–6)

Chapters 2 through 6 present the status of each Service and their respective RC in terms of RC equipping policies and methodologies. Each chapter contains a Service and RC overview, and includes a discussion of current equipment status, future equipment procurements, and remaining shortfalls and unfunded requirements. Each chapter includes a review of the current status of equipment compatibility and interoperability between the AC and the RC of each Service, the effect of that level of compatibility/interoperability, and a plan to achieve full compatibility/interoperability.

RC data tables for each Service contain specific information on major items of equipment selected for review in this report and are placed at the end of each RC narrative section. The NGRER articulates data in eight tables (*Tables 1–8*) for each RC. In a situation where data tables are not applicable to a particular RC, a blank page has been inserted to note that table data is not applicable. The “Data Table Explanation” at the end of this section defines the data contained in *Tables 1–8*.

## VI. Terminology and Definitions

Major Items of Equipment include aircraft, tanks, ships, trucks, engineer equipment, and major items of support equipment. These items normally will include large dollar value requirements, critical RC shortages, Service and National Guard and Reserve Equipment Account (NGREA) procured items, and any RC-specific item that the Chief of the specific RC wishes to highlight.

Required Quantity is the total number of an item required to be on-hand or available to RC units to go to war and accomplish their missions. This includes requirements for war reserve and other stocks. The simplified term “requirement,” as used in this report, is synonymous with “full wartime requirement,” and satisfies the requirement in Title 10 to provide a “recommendation” as to the type and quantity of equipment needed in RC inventories.

On-hand Quantity is the equipment physically on-hand in RC or AC units or in war reserve and other stocks specifically designed for wartime use by the RC or AC.

Deployable Item is an item which, considering its suitability, operability, compatibility, and supportability, will provide an expected degree of mission success sufficient to warrant its wartime operational employment.

Compatibility/Interoperability denotes the capability of two items of equipment to operate together in the same environment without interfering with one another and without degrading function or unit capability.

Substitute Item is not the most desired item but based upon its capability can be employed in wartime in lieu of a combat essential required item of equipment. It may not function at the same level of capability as the item in the AC for which it is the substitute.

Equipment Shortage (Shortfall) is the difference between the quantity required and the quantity on-hand, excluding substitute items and excess quantities beyond the required quantity.

Modernization Shortfall is the difference between the required quantity of the most modern item and the on-hand quantity of that item. Modernization shortfalls are not necessarily equipment shortages as most Services substitute older versions of an item for the most modern item. Therefore, modernization shortfalls are shortages of the most modern item only and can have a significant effect on compatibility and interoperability.

## **VII. Data Tables**

### **A. Table Contents**

A separate set of Data Tables (*Tables 1–8*) is provided in Chapters 2 through 6 for each RC. These tables contain the required information relative to major items of equipment identified in the report. The following list identifies the separate data tables that are included in the report for each RC.

- Table 1: Consolidated Major Item Inventory and Requirements (This is an all-inclusive table while other tables are subsets of *Table 1*.)
- Table 2: Average Age of Equipment
- Table 3: Service Procurement Program–Reserve (P-1R)
- Table 4: National Guard and Reserve Equipment Account (NGREA) Procurements
- Table 5: Projected Equipment Transfer/Withdrawal Quantities
- Table 6: FY 2020 Planned vs Actual Procurements and Transfers
- Table 7: Major Item of Equipment Substitution List
- Table 8: Significant Major Item Shortages

### **B. Table Explanations**

The following paragraphs provide an explanation of the data table columns and data criteria by table.

**Table 1: Consolidated Major Item Inventory and Requirements.** This table provides a comprehensive list of selected major items of equipment the RC chooses to highlight, by providing key administrative data, on-hand inventories, and wartime requirements.

RC is the specific Reserve or National Guard entity, i.e., ARNG, USAR, USMCR, ANG, AFR, USNR, or USCGR.

Nomenclature is the description or common name of the item of equipment.

Equipment Number is the individual Service equipment identification code: Line Item Number for the Army; Table of Authorized Materiel Control Number for the Marine Corps; Equipment Cost Code for Navy engineering items; and National Stock Number for the Air Force.

Cost is the FY 2023 procurement cost per unit. If an item is no longer being procured, the inflation adjusted cost from the last procurement is shown. If an item is programmed for initial procurement beyond FY 2024, the data table depicts the projected unit cost at the time of procurement.

Quantity On-hand (QTY O/H) is the actual/projected item count for a particular item of equipment at a specified time.

Quantity Required (QTY REQ) is the authorized wartime requirement for a given item of equipment.

**Table 2: Average Age of Equipment.** This table is a subset of *Table 1* and highlights the average age of selected items of equipment.

Average Age is the calculated age of a given item of equipment. Since equipment is normally procured over several years, this figure provides an average age of the fleet at the start of FY 2024.

**Table 3: Service Procurement Program–Reserve (P-1R).** This table highlights items of equipment, which the Service intends to procure for their RC. The source of this data is the P-1R exhibit to the President’s Budget.

**Table 4: National Guard and Reserve Equipment Account (NGREA) Procurements.** This table highlights the items that the RC plan on procuring with miscellaneous NGREA funds. Because these funds are available for 3 years, this table highlights items in the current procurement cycle.

**Table 5: Projected Equipment Transfer/Withdrawal Quantities.** This table portrays the planned equipment transfers (AC to RC), withdrawals, and decommissioning. Transfers are commonly called “cascaded” equipment or equipment that is provided to the RC once the AC receives more modern equipment items. Although this table highlights a 3-year period, many Services do not know exact quantities of transfers or



withdrawals until year of execution because of the uncertainty of the procurement/delivery cycle of new equipment.

**Table 6: FY 2020 Planned vs Actual Procurements and Transfers.** This table compares what the Service planned to procure and transfer to the RC in FY 2020 with actual procurements and transfers. Because the procurement cycle is normally 1 to 3 years from funding to delivery, this table identifies only what has been delivered through the end of FY 2022.

Planned Quantity is the item quantity the Service programmed to deliver to the RC as part of the budgeting process.

Actual Quantity is the item quantity the Service actually delivered or has in the procurement cycle to deliver to the RC.

**Table 7: Major Item of Equipment Substitution List.** A list of equipment authorized by the Service to be used as a substitute for a primary item of equipment. This table also identifies whether this substitute item is suitable for deployment in time of war.

Nomenclature (Required Item/Substitute Item), see *Table 1* description for nomenclature. Equipment Number (Required Item/Substitute Item), see *Table 1* description for equipment number.



**Table 8: Significant Major Item Shortages.** The top ten items of equipment and modernization/upgrades, which are not yet funded, are listed in this table in priority order. If additional funds were to become available, the RC would apply those funds to the highest priority item on this list.

## Appendix B

# National Guard Equipment Reporting Requirements

Purpose: This appendix satisfies the Department of Defense (DoD) requirement for the Chief of the National Guard Bureau (CNGB) to provide a statement of accuracy on equipment projections and delivery of equipment procured the previous year (FY 2022) in accordance with section 10541(d) of Title 10, U.S.C.

*Figure B-1. Chief, National Guard Bureau Memorandum*

	<p><b>NATIONAL GUARD BUREAU</b> 1636 DEFENSE PENTAGON WASHINGTON DC 20301-1636 DEC 20 2022</p>
<p>MEMORANDUM FOR UNDER SECRETARY OF DEFENSE FOR PERSONNEL AND READINESS</p>	
<p>SUBJECT: Certification and Statement of Accuracy to Accompany the Fiscal Year 2024 Annual National Guard and Reserve Equipment Report</p>	
<p>Reference: Title 10 United States Code, Section 10541, "National Guard and Reserve Component Equipment: Annual Report to Congress," January 07, 2011</p>	
<p>On behalf of the National Guard Bureau, I submit this certification and statement of accuracy to accompany the attached annual National Guard and Reserve Equipment Report as required by the reference.</p>	
<p>Since this requirement was established in 2008, we have made great strides in reporting via our systems of record. Building on last year's certification of Army National Guard Fiscal Year 2012-2014 we can now close out the 2015 Fiscal Year record. I certify deliveries for all Army National Guard Fiscal Year 2015 equipment appropriations and transparency of programming actions. The Air National Guard continues to transition to the Defense Property Accountability System (DPAS) to ensure improved Total Force management of equipment and readiness.</p>	
<p>I do not expect to attain the full, auditable transparency and traceability of procurement funding desired by Congress until full implementation of the Department of Defense DPAS. I support the ongoing efforts by the Office of the Secretary of Defense, the Departments of the Army, and Air Force to ensure that funding identified by Congress for the National Guard procures equipment for the National Guard, to address changing priorities.</p>	
<p>The point of contact for this action is Colonel Kenneth Lozano, National Guard Bureau Operations Directorate, at 703-607-8406.</p>	
<p> Daniel R. Hokanson General, U.S. Army Chief, National Guard Bureau</p>	
<p>Attachment: As stated</p>	
<p>cc: ASA (M&amp;RA) ASAF (M&amp;RA) DARNG DANG</p>	

## VIII. National Guard Overview

The 2022 National Defense Strategy (NDS) describes the Department's approach to dealing with an increasingly complicated and complex security environment.<sup>1</sup> The NDS is consistent with the President's National Security Strategy and highlights three defense priorities: defending the homeland, paced to the growing multi-domain threat posed by the PRC; deterring strategic attack against the United States, Allies, and Partners; deterring aggression while being prepared to prevail in conflict when necessary, prioritizing the PRC challenge in the Indo-Pacific Region, then the Russian challenge in Europe; and building a resilient Joint Force and defense ecosystem.<sup>2</sup>

The National Guard is ready, capable, lethal, resilient, and more professional than ever. We maintain our nation's competitive edge in this new strategic environment focused on China and Russia. We fight and win future conflicts as part of the Joint Force; secure the homeland; and work with allies and partners at every level. We are a battle-tested, operational force, ready to use our equipment, training, and personnel to aid our American communities in times of crisis. Globally and in more than 2,800 locations across the 50 states, 3 territories, and the District of Columbia, we are prepared for whatever the future may hold.

We are the National Guard, and this is our promise to America: Always Ready, Always There.<sup>3</sup>

### A. National Guard Equipment Readiness

The National Guard performed at historic levels over the past 2 years, including rapidly generating operational forces for the Joint Force while serving our communities during their time of need. The importance of modern equipment for the National Guard cannot be overstated and is critical for responding to our nations' s unforeseen and evolving needs.

Equipment parity is crucial to maintaining the lethality the NDS requires from the Joint Force. The primary mission of the National Guard as the combat reserve of the Army and the Air Force is to fight and win America's wars. Therefore, we train, prepare, and respond. Thanks to the unique dual role of the National Guard, our manning, training, and equipment to fight wars enables us to help our communities in times of crisis. Last year, in 2021, the National Guard served more than 10 million personnel days carrying out domestic operations (DOMOPS) serving our communities.<sup>4</sup>

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<sup>1</sup> Statement of Dr. Mara E. Karlin before the Center for a New American Security, December 2021.

<sup>2</sup> Fact Sheet: 2022 National Defense Strategy, March 2022.

<sup>3</sup> Written Statement of GEN Daniel R. Hokanson, CNGB, before the Senate Appropriations Committee, Subcommittee on Defense, June 7, 2022, p. 2.

<sup>4</sup> Written Statement of GEN Daniel R. Hokanson, CNGB, before the Inter-American Defense College, February 16, 2022, p. 7.

We must continue to improve our equipment management across the services. The previous model of cascading older equipment from active duty forces to National Guard units degrades the National Guard's ability to perform as an operational force and diminishes our essential capabilities in both fighting America's wars and responding to communities in times of crisis.

As DoD engages in strategic competition, the National Guard will continue to emphasize the need for a modernized, relevant, and capable reserve component to augment our active forces and bolster our nations deterrence. Key to this deterrence is ensuring that the National Guard is included into the modernization process of all our services. As 20 percent of the joint force, it is critical to the Army and the Air Force that National Guard equipment is deployable, sustainable, and interoperable on the battlefield.

Speaking before the Senate Appropriations Committee, Subcommittee on Defense, Hokanson said modernization is a key part of deterrence.<sup>5</sup> "When we look at the threats that we face, the biggest thing we want to do is deter that [threat] so we do not get into a fight," said Army Gen. Daniel R. Hokanson, CNGB. "By having a modernized, relevant and capable reserve component to augment our active forces—I think is perhaps one of the best deterrents that we have."<sup>6</sup>

In the Air National Guard (ANG), a critical area for modernization remains the fighter aircraft fleet, which includes the F-35 Lightning, F-22 Raptor, F-15 Eagle, F-16 Fighting Falcon, and A-10 aircraft. The ANG operates six squadrons of F-15C/D aircraft. Of those units, one has been identified to transition to the F-35 and two have been identified to transition to the F-15EX. The remaining F-15C/D units require recapitalization to support ongoing NDS taskings. Also, the Air Guard operates six Wings of "Pre-Block" F-16C/D aircraft. None are currently slated for recapitalization. Both the F-15 and F-16 units support Air Control Alert missions as well as COCOM taskings and all must be recapitalized to ensure success in the future.<sup>7</sup>

The ANG provides 30 percent of the Air Force's operational capability and includes 25 fighter squadrons critical to the nation's defense. Without modernized equipment, the capability and capacity the ANG provides to our nation's air readiness, air deterrence, and air interoperability are in jeopardy.

Though the National Guard's primary mission is combat, our unique structure and authorities allow us to use our combat-trained personnel, skills, and equipment to help our communities when disaster strikes. Located in 54 states and territories and DC, the National Guard rapidly responds to disasters of every size and type.

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<sup>5</sup> Ibid., p. 3.

<sup>6</sup> Ibid., p. 2.

<sup>7</sup> Ibid.

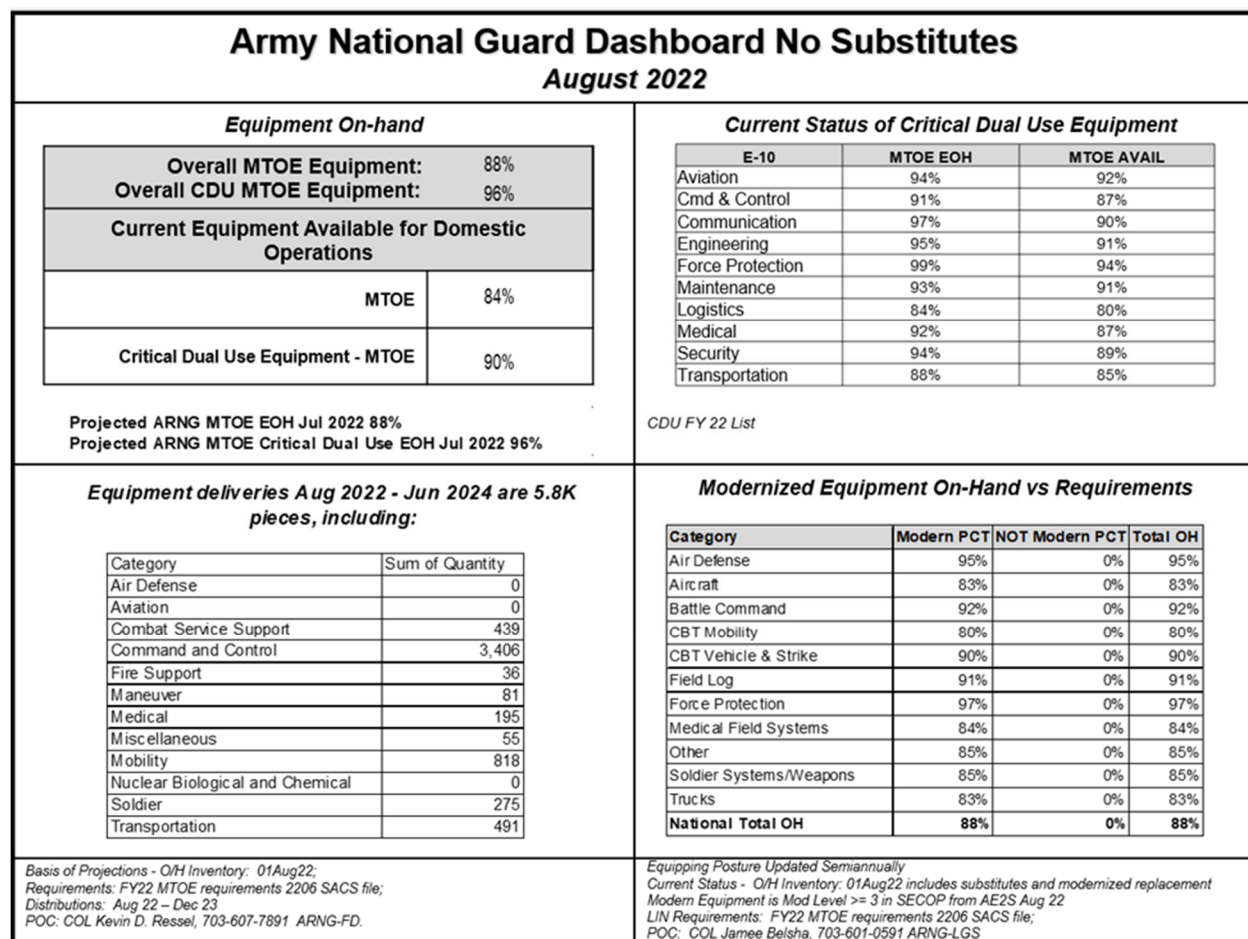
In 2021 the National Guard served more than 10.9 million personnel days in DOMOPS, including supporting the presidential inauguration, serving on the frontlines of the COVID-19 pandemic, responding to civil unrest, and helping communities coast-to-coast as they faced wildfires, hurricanes, floods, tornadoes, and winter storms. The National Guard cleared roads of debris, performed search and rescue missions, dropped water and fire suppressants over acres of flames, directed traffic, provided medical support, and delivered food, water, and supplies to devastated communities. The importance of modern equipment for the National Guard can't be overstated, as shown by these domestic responses in our communities across the nation.

Over the past 20 years, the National Guard demonstrated its success as an operational force—but that's not enough. We must be an operational force that is modernized so we are fully interoperable with the Joint Force and our partners and allies, and able to respond in our communities in times of crisis.

## **B. Army National Guard Equipment**

The Army National Guard (ARNG) continues to improve across every measure of readiness, as evidenced by the Dashboard (see Figure B-2). The Dashboard presents a snapshot of ARNG equipment on-hand (EOH); Critical Dual Use (CDU) equipment by Essential 10 Capabilities; projected equipment fielding from August 2022 through June 2024; and EOH of modernized versus non-modern equipment.

Figure B-2. Army National Guard Dashboard, August 2022



As of August 2022, the ARNG EOH for the Modified Table of Organization and Equipment (MTOE) required equipment stood at 88 percent overall and 96 percent for the MTOE CDU equipment subset. A further breakdown of overall MTOE EOH and CDU EOH is provided for equipment available to governors for Defense Support to Civil Authorities (DSCA), with MTOE EOH at 84 percent and CDU EOH at 90 percent. Equipment unavailable to the governors is primarily a result of Title 10 mobilizations. Fluctuations in EOH percentages will occur due to force structure changes. Still, such fluctuations should be minimal because EOH is being rolled up to the state and national levels. Changes in the CDU list primarily cause year-to-year CDU percentage variations. The EOH percentage is calculated without using substitutions. Specific CDU areas of concern include Command and Control, Logistics, Medical, Transportation, and Security.

The Army recognizes the need to track Modernized EOH (MEOH). MEOH is used to measure the Army’s modernization progress and the equipment modernization of the force by showing modern inventory against requirements without substitutes, defining the force’s modernization at the aggregate and component levels. In August 2022, 88 percent of the ARNG’s required equipment meets the desired modernization level.

Over the past decades, the Total Army modernization efforts brought the ARNG in line with Active Army force structure capabilities. The ARNG modernization tenets focus on Readiness by ensuring sustainable, interoperable, and deployable equipment enables the total force and supports the Director of ARNG's strategic vision. Likewise, the "right mix" of unit capabilities combined with modern equipment generates capabilities essential to conducting the ARNG's federal and domestic missions.

### **C. Air National Guard Equipment**

The Director, ANG's three lines of effort are: Readiness for Today's Fight; 21st Century Guard Airmen; and Build for Tomorrow's Fight. The ANG's modernization efforts center on the first and last of these three tenets, continuously improving readiness and improving capability to support future combat and DOMOPS. In keeping with the Director's priority to Build for Tomorrow's Fight, the ANG offers effective capabilities to the Total Force by modernizing existing equipment. The ANG leverages its unique strengths, such as its experienced workforce, strategic locations, and synergistic partnerships, to provide a future force design that capitalizes on the inherent advantages of ANG airmen, the 90 wings, and all states and territories.<sup>8</sup> The National Guard and Reserve Equipment Account (NGREA) has been a valuable funding tool as the ANG modernizes the force guided by CNGB, ANG Director, and AF priorities (see Table B-1).

The ANG is operationally engaged across every AF mission set, including newly added U.S. Space Force missions, while also responding to the needs of its communities. Over the past decade, the ANG has proven its value as the primary Air Force Operational Reserve force.<sup>9</sup>

In the coming years, the ANG faces equipment and infrastructure modernization issues that will force it to change how it looks and operates. As the USAF seeks to replace legacy equipment, it can expect the budgetary pressures of costly new systems to reduce the likelihood of modernizing existing equipment. The future AF relies heavily on technological advantages in space, command and control (C2), intelligence and reconnaissance systems, cyber, remotely piloted aircraft, and next generation fighters, tankers, and bombers.<sup>10</sup> The ANG anticipates initial equipment and personnel requirements designated to support the former Air Force Space Command will transfer to Space Force installations.

CNGB stated, "The National Guard is a lethal, cost-effective, dual-role operational force that provides strategic depth to the Army, Air Force, and Space Force, and responds to crises in our homeland. We can operate in a complex global security environment and continue to invest in modernization and readiness to prepare for the threats of the

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<sup>8</sup> Air National Guard Readiness Center 2019 Strategic Plan.

<sup>9</sup> Ibid.

<sup>10</sup> Ibid.

future. Today’s National Guard is an integral part in addressing the gravest challenges facing the Joint Force.”<sup>11</sup> The revised table shows equipment and vehicle data extracted from the Defense Property Accountability System (DPAS), the new Accountable Property System of Record (APSR) for equipment, and the Defense Medical Logistics Standard Support information system. As the ANG navigates the capabilities of the APSR, coupled with more in-depth inventories, the ANG continues to establish more defensible, repeatable, and auditable equipment data (Table B-1).

Table B-1. ANG Equipment and Vehicles

Essential Capability	DPAS Total Asset In-Use Quantity	DPAS Total Asset In-Use Quantity Cost	Total Asset Requisition Quantity	Requisition Total Cost	Remaining Unfunded Requisition Quantity	Remaining Unfunded Requisition Cost
Aviation SE	102,721	\$2,324,662,327.69	3,052	\$157,990,983.91	2,920	\$152,090,833.06
Civil Support & Force Protection	15,926	\$178,841,439.29	99	\$989,455.54	98	\$970,955.54
Command & Control	7,086	\$358,425,177.76	1,640	\$42,168,389.96	1,591	\$41,289,120.96
Communication	11,727	\$262,564,108.98	1,206	\$17,333,230.47	1,203	\$17,310,771.45
Engineering	25,977	\$276,939,860.43	323	\$9,965,271.58	298	\$9,504,453.95
Logistics	49,104	\$105,959,315.05	449	\$12,030,483.70	442	\$11,893,317.60
Maintenance	15,516	\$264,469,228.99	977	\$60,008,748.06	822	\$51,020,159.19
Medical	261	\$989,097.51	0	\$0.00	0	\$0.00
Security	66,851	\$119,871,190.20	5,106	\$8,084,838.59	5,104	\$8,050,248.69
CERFP/HRF	4,266	\$19,522,125	956	\$8,347,210	956	\$8,347,210
	299,435	\$3,912,243,870.90	13,808	\$316,918,611.81	13,434	\$300,477,070.44
	<b>In Use Quantity</b>	<b>In Use Cost</b>			<b>Needed Quantity</b>	<b>Needed Cost</b>
Vehicles	14,130	\$1,615,560,345	230	\$16,704,191	4,452	\$516,795,977
<b>Total Equipment &amp; Vehicles</b>	<b>313,565</b>	<b>\$5,527,804,216</b>	<b>14,038</b>	<b>\$333,622,802.81</b>	<b>17,886</b>	<b>\$817,273,047</b>
<b>Note:</b>						

## D. Equipment Shortfalls

### 1. Aviation

The ARNG provides aviation forces to meet Army demands in theaters worldwide, concurrently providing a critical capability, to support domestic and Emergency Management first responders. ARNG rotary-wing and fixed-wing capabilities operate in

<sup>11</sup> General Daniel Hokanson, *Written Statement to the Senate Appropriations Committee, Subcommittee on Defense*, May 18, 2021, p. 2.



combat/contested environments, fight wildfires, provide search and rescue to support hurricane and flood response, and serve as key enablers to the movements of first responders during the early aftermath of natural and manmade disasters. The ARNG aircraft fleet provides critical support to the National Guard's domestic response.

The ARNG has 921 H-60 (AAO) helicopters and continues to modernize the entire UH-60 aircraft fleet. Modernization within the Guard requires recapitalizing and digitizing the UH-60L fleet into the UH-60V series variants and procuring new build H-60M aircraft. ARNG continues to divest legacy aircraft, sending born H-60Ls to the H-60V line and using the Black Hawk Exchange and Sales Team (BEST) program to divest H-60A/Ls when H-60Ms and 60Vs are fielded. Upon completion of Army Aviation H-60 procurement objectives, the ARNG end state fleet will consist of 921(AAO) UH-60 aircraft: 535 H-60M, and 386 UH-60V. These figures include assault, C2, and medical evacuation variants.

The ARNG Heavy Lift Cargo Helicopter fleet is modernized with 165 (AAO) Improved Cargo Helicopter (ICH) multiyear I CH 47F Block I aircraft. Future modernized and recapitalization of the CH-47F Block 1 into the CH-47F Block 2 has an HQDA decision point set for 4Q FY 2023.

The total ARNG H-72 authorization remains 212 aircraft (AAO) and is modified to include 198 MTOE, and 14 TDA with the S&S BN/TASMG Force Design Update Jr. implementation in FY 2023. The ARNG Light Utility Helicopter fleet is below the MTOE authorized level of 198 UH-72s with 186 on hand. Starting in FY 2021, the ARNG cascaded 15 H-72As through 30 September 2022, with a further three scheduled by December 2022, to the U.S. Army Aviation Center of Excellence at Fort Rucker, Alabama. The ARNG is fielding 18 UH-72Bs to 9 states between August 2022 and March 2023 to achieve the 194 UH-72 authorization. Seven UH-72B have fielded to four states as of 30 September 2022.

ARNG requires a modernization and recapitalization plan to sustain the UH-72 fleet beyond the next 10 years as the aircraft begin to reach the end of their initial Economic Useful Life (EUL) within the next decade. The impact of a lack of a modernization plan for the UH-72 fleet will be felt immediately in increased non-mission capable rates and increasing costs of maintaining the fleet as it continues to age. The ARNG will maintain a DOMOPS response capability by leveraging other aircraft in the fleet during periods when UN-72s are unavailable.

The ARNG fixed-wing fleet is comprised of 57 aircraft (46 C-12 and 11 C-26) based in 52 (49 CONUS and 3 OCONUS) locations. ARNG is coordinating with Headquarters, Department of the Army and the Project Management (PM) Office for both Light Utility Helicopters and Fixed Wing to reduce NGB's long-term operational risk to force, through required modernization of lifecycle upgrades to minimize operational impacts, reduce sustainment costs, and mitigate risk to flight, and increase the sustainability of these fleets through the next decade.

The ARNG is short 185 Raven unmanned aerial vehicles (23 percent of the requirement). The Raven program for Compo 1, 2, and 3 was fielded to 85 percent of authorizations. Any risk associated with a fielding shortage is being mitigated via the Medium Range Recon (upgraded Raven) unmanned aerial systems (UAS) that began replacing the current RQ-11 Raven in FY 2022 and PM UAS fielding ARNG units to full authorizations.

Soldier Borne Sensor (smallest UAS) fielding started in FY 2018. By FY 2025, ARNG will acquire 2,707 systems. Short Range Recon fielding starts in FY 2023. By FY 2026, ARNG will acquire 676 systems. The RQ-7 Shadow is upgrading to a new Block III capabilities group. ARNG 19th and 20th Special Forces Group units will receive Block III RQ-7 Shadow. ARNG Brigade Combat Team (BCT) UAS will evolve to the new Future Tactical Unmanned Aircraft System (FTUAS). ARNG FTUAS fielding will be determined based on decisions related to the Regionally Aligned Readiness Modernization Model or ReARMM.

The ANG documented \$9 billion in critical capability shortfalls through its Air Reserve Components (ARC) Weapons and Tactics Council (WEPTAC) and ANG Domestic Capability Priorities (DCP) programs. The annual ARC WEPTAC and DCP Conferences remain as integral starting points to mitigate critical shortfalls and modernization efforts of ANG aircraft fleet and equipment. As a result of WEPTAC, the 2022 Modernization Book documented a \$8.4 billion shortfall for modernizing and recapitalizing the ANG aircraft fleet and associated equipment. The top three modernization priorities for 2023 are: Digital Electronic Warfare Suite modernization for the F-16; Multi-spectral Advanced Data Link for F-15; and C-130H Self-protection capability.

The total unfunded modernization shortfall for the F-16 is \$650 million. The ANG's 320 F-16C/D aircraft provide 35 percent of the total Air Force fleet and fulfill many of Allied Air Command's precision-guided munitions and close-air support taskings, including convoy escort, dedicated infrastructure defense, border patrol, and raid support.

The ANG's 137 F-15C/D aircraft provide 58 percent of the F-15C/D fleet, and CONUS units provide 31 percent of the nation's Aerospace Control Alert assets, spanning five alert sites and providing 24-hour homeland defense. The total unfunded modernization shortfall for the F-15C/D aircraft is \$194 million.

With a legacy lasting over 65 years, the C-130 Hercules remains the U.S. Military's primary tactical airlift aircraft. The ANG's 91 C-130H aircraft provide 32 percent of the total Air Force fleet. The ANG C-130H fleet requires a common-carry open-architecture mission pod capable of enhancing survivability in contested environments. Mobility Air Forces (MAF) C-130H aircraft have an inadequate ability to detect, degrade, and defeat infrared (IR) man-portable air defense systems (MANPADS). The Block 30 AN/AAQ-24 Large Aircraft IR Countermeasures (LAIRCM) system improves detection against advanced MANPADS threats and degrades the enemy's ability to engage C-130H aircraft. To survive in modern combat, C-130H aircraft require a radar warning receiver

(RWR) with geolocation ability that is capable of processing signals in a dense radio frequency (RF) environment and automatically directing countermeasures to defeat those threats. This \$809 million shortfall requires a 5-year procurement timeline, if funded.

## **2. Chemical, Biological, Radiological, and Nuclear (CBRN)**

The National Security Strategy recognizes that the U.S. is no longer a sanctuary:

Many of the biggest threats we face respect no borders or walls and must be met with collective action. Pandemics and other biological risks, the escalating climate crisis, cyber and digital threats, international economic disruptions, protracted humanitarian crises, violent extremism and terrorism, and the proliferation of nuclear weapons and other weapons of mass destruction all pose profound and, in some cases, existential dangers.<sup>12</sup>

The threat of CBRN incidents in the Homeland continue to increase. Pharmaceutical based agents (PBAs), such as fentanyl and related derivatives, are prevalent in the U.S. because of illicit drug trafficking and can be used as incapacitating agents or contaminants. State and non-state actors have demonstrated willingness to use chemical agents in combat zones in Iraq and Syria and in other locations, such as in Great Britain. Additionally, the spread of nuclear weapons to rogue actors is a near certainty. The domestic threat is real and the probability of major or catastrophic domestic CBRN incidents is increasing. The increasing risk of a domestic nuclear incident is highlighted in the July 2022: GAO Report to H.R. Committee on Homeland Security, Preventing A Dirty Bomb (Vulnerabilities Persist in NRC's Controls for Purchases of High-Risk Radioactive Materials). The report states: "From 2011 through 2020, the U.S. Nuclear Regulatory Commission (NRC) reported 4,512 nuclear materials events, which include instances of lost or stolen radioactive materials, radiation overexposures, leaking sources of radioactive material, and other events."

National Guard CBRN Response Enterprise (CRE) forces respond during incidents that include use or threatened use of Weapons of Mass Destruction (WMD) and terrorist attack or threatened terrorist attack. The CRE provides support during intentional or unintentional release of nuclear, biological, radiological, or toxic/poisonous chemicals and natural or manmade disasters in the U.S. that result, or could result, in the catastrophic loss of life or property. The specialized CBRN equipment serves to identify hazards, assess current and projected consequences, advise on response measures, and provide additional support.

The National Guard CRE elements consist of 57 WMD Civil Support Teams (CSTs), 10 Homeland Response Forces (HRFs), and 17 CBRNE Enhanced Response Force Packages (CERFPs). CSTs are state of the art detection and mitigation teams manned with full-time personnel for immediate response. HRFs and CERFPs are modular joint task forces tailored to provide life-saving capabilities during multiple or large-scale

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<sup>12</sup> *Interim National Security Strategic Guidance*, March 3, 2021, p. 7.

domestic CBRN incidents involving mass casualties from CBRN and high-yield explosive hazards. With a total strength of over 10,000 Soldiers and Airmen, CRE elements are geographically distributed to enable rapid response times for much of the U.S. population.

- a. The DoD has recognized the reemergence of CBRN threats and resourced efforts to rebuild the nation's capability and capacity to mitigate and protect our Military Services' resources. A key enabler for the BCT is the Nuclear, Biological, and Chemical Reconnaissance Vehicle (NBCRV). The Army has taken risk in the NBCRV program to support other priority programs, resulting in a shortfall in NBCRV platforms and updated capabilities. This capability shortfall impacts units' abilities to detect chemical, biological, and radiological hazards. Units are degraded even further during deployments when internal lateral transfers are performed to source higher priority mobilizing units. Addressing this shortfall will ensure assets in ARNG BCTs dispersed across the nation are available for wartime or DSCA/HLD missions.
- b. The ANG CERFP and HRF medical elements need to upgrade their advanced trauma medical equipment. Medical requirements identified for modernization and renewal include oxygen generators, ventilators, video laryngoscopes, medical ultrasound, thermometers/vital signs monitors, and exterior lighting in addition to a standardized equipment mounting solution to safely secure medical equipment during patient use. Oxygen generators have been validated through the DCP Conference and are awaiting final funding approval. Additionally, patient tracking remains a capability gap for National Guard medical CRE forces. The lack of a standardized electronic tracking system that enables the tracking of victims and treatment between ANG medical units and local and regional hospitals was identified as a shortfall by the CNGB to the Chairman of Joint Chiefs of Staff in the annual (FY 2018–FY 2022) Chairman's Capability Gap Assessment.

**c. Domestic CBRN Prevention Equipment**

- **Radiological and Nuclear Detection and Identification.** WMD-CSTs continue to have insufficient capability to detect and identify radiological and nuclear (R/N) hazards (including special nuclear material) to prevent or respond to domestic R/N incidents. In the FY 2024–FY 2028 Program Budget Review (PBR), DoD identified and funded a R/N modernization and procurement program that will provide the means for mitigating NGB domestic prevention and response R/N equipment shortfalls in the mid- and long-term.
  - **Dismounted.** WMD-CSTs Army fielded basic radiological detection, identification, and computation (RADIAC) systems (AN/PDR-77 and the AN/VDR-2) and advanced Commercial Off the Shelf (COTS) locating and identification systems (NUCSAFE backpacks and ORTEC hyper-Germanium detector) are obsolescing and there are no plans for fielding replacements. The Army agreed to field 42 of 57 man-portable Radiological Detection Systems to the WMD-CSTs; but sufficient funding and the fielding plan remain undetermined. The Chemical Biological Defense Program (CBDP) also eliminated funding for the WMD-CST Radiological Isotope Identification Detector.

- **Mounted.** WMD-CSTs lack a mounted R/N detection capability and therefore cannot conduct large area R/N search missions to support domestic Radiological and Nuclear Search Operations, Prevention of Radiobiological or Nuclear Disasters, National Special Security Events, or post-incident survey missions for major catastrophic incidents.
- **Biological Agent Detection.** WMD-CSTs lack sufficient capability to detect biological warfare agents or emerging infectious diseases. The Joint Biological Detection System (JBTDs) is the primary program of record (POR) for biological threat detection and identification and essential for mitigating this capability gap.
- **Non-traditional Agent (NTA) Detection.** WMD-CSTs continue to lack sufficient capability to detect and identify NTAs at low concentration levels and when mixed with interferents; specifically, fourth generation agents such as Novichok and PBAs such as fentanyl and carfentanil. These agents are extremely lethal even at very low concentration levels and often are mixed with other substances in a domestic incident. NGB is procuring a COTS chemical detector (MX 908) and CDBP is fielding a modification (Solid Liquid Agent, SLA sleeve) to the Joint Chemical Agent Detector (JCAD) that will improve NTA detection capability but will not sufficiently mitigate this gap.

#### d. Domestic CBRN Response Equipment

- **Decontamination.** Existing Mass Personnel Decontamination (MPD) systems for NG CRE forces (HRFs and CERFPs) are obsolescing and there is no POR to provide replacement systems. Additionally, no known effective decontaminant exists for PBAs. Soap and hot water decontaminate personnel, but most fentanyl derivatives remain a hazard in the run-off.
- **Search and Rescue Reconnaissance.** HRF and CERFP Search and Extraction (S&E) Teams have insufficient capability to rapidly conduct tactical reconnaissance and locate victims in the hazard area. HRFs and CERFP S&E Teams need Unmanned Aerial and Ground Vehicle Systems to conduct reconnaissance and enable timely decisions to locate survivors; allocate S&E capabilities; provide force protection; and assess environmental contamination. UAVs and UGVs will provide more timely information, enabling better decisions that will save more lives.
- **Emergency Medical Treatment.** NGB fielded advanced trauma systems to the WMD-CSTs that include down range emergency ultrasound analysis to enable airway intubation at or near the incident site. This equipment will significantly increase the WMD-CST force health protection capability.
- **Technical Refresh and Modernization of National Guard HRF/CERFP Tactical End-User Computing Device Equipment.** NG CRE response to and support of DOMOPS activities requires that NG HRF and CERFP tactical units are readily interoperable with one-another and with civilian and other DoD mission partners. The NG CRE, also including WMD-CST, relies on NG CRE Information Management System (CIMS), an NGB System of Record capability, to synchronize and maintain real-time COP/SA, integrate CBRN detection alerts

and data, facilitate decision support activities, and share mission critical operations information to support incidents and events, such as the Boston Marathon Bombing, hurricanes, wildfires, volcanic eruptions, floods, and NSSEs (e.g., Papal Visit, United National General Assembly, Presidential Inauguration, State of the Union, Regional/State social events). Particularly, NG HRF/CERFP operations require the use of key enabling COTS smartphone and computer device equipment that is both compatible with NG CIMS DoD-accredited software applications and maintains compliance with broader DoD IT and Cyber Security Risk policies. Since initially acquired and fielded in FY 2018, current COTS manufacturer make/model smartphone and computer device equipment used by NG HRF and CERFP units will reach end-of-life (EOL) status during FY 2023–FY 2024. When reaching EOL status, the Defense Information Systems Agency (DISA) and broader DoD will prohibit access by and support of these mission assets on DoD networks and services, which negatively and severely impacts NG CRE readiness and operational response success. As such, it is necessary and important for NGB to conduct technical refresh modernization of end-user COTS smartphone and computer device equipment for NG HRF/CERFP units. Timely completion of the critical technical refresh and modernization activity will ensure that NG CRE force elements can remain ready and capable to respond to and support DOMOPS concerns.

### **3. Command and Control**

- a. Blue Force Tracking (BFT1) transceivers are dispersed across a wide range of ARNG units. Units within Division formations have a mix of BFT1 and BFT2 devices. Fielding the Joint Battle Command-Platform (JBC-P) allows the Army to retire older versions of legacy system FBCB2 and JCR hardware and software, which will reduce the interoperability issues, cyber vulnerabilities, and maintenance costs of older hardware and software. Approximately 91 percent of the ARNG force is equipped with BFT JCR (enduring) and JBC-P (most modern), leaving approximately 9 percent of the force currently with no BFT capabilities. Turning off the BFT1 network early will introduce additional unique operational risk for the ARNG and impact its use to support DSCA and Homeland Defense (HD). Approximate nine of ARNG units are currently not interoperable. Early termination of the BFT1 systems increases the percentage of non-interoperable ARNG units to 31 percent. The interoperability gap begins to close in 2Q23, with full interoperability achieved in 4Q25.
- b. ANG C2 organizations require systems upgrades in Air Operations Centers (AOCs), Battle Control Centers (BCCs), Air Control Squadrons (ACSs), and Control and Reporting Centers (CRCs) to meet combatant command requirements. C2 organizations operate with outdated software, radar, communication, and datalink equipment, as well as software that is not on par with current technology, creating several operational limiting factors. AOCs need a core radio package system comprising multiple radios, antennas, and datalink systems and a cross-domain solution (CDS) to allow simultaneous views of multiple classified and unclassified security domains. BCCs need advanced datalink capabilities to pass critical tasking messages, simulator training systems, and a CDS to share tactical data. CRCs need

advanced identification equipment, remote radar and communications equipment, and a highly mobile active electronically scanned array radar. Critical shortfalls exist with the AN/TPS-75 Radar, Mode 5, combat ID, and counter UAS/counter cruise missile capabilities. Funding for critical upgrades to AOC, BCC, and ACS systems is necessary to match technology and capabilities fielded by the active duty component. FY 2021 NGREA addressed critical upgrades to AOC, BCC, ACS, and CRC systems.

#### **4. Communications**

- a.** ANG communications forces have required equipment for assigned Title 10 missions, while gaps continue to exist for DOMOPS. The ANG requires the ability to provide reach-back and interoperability communications to support DSCA operations such as natural disasters and communications support to HRF and CERFP elements. The communications-electronic hardware and software has reached the end of life and end of support milestones, which increases cybersecurity vulnerabilities and affects the lifecycle sustainability of the system. The ANG requires JISCC Modernization Kits for each of the JISCC Block III units. Military emergency response forces are often unable to conduct interoperable communications with their civilian emergency response counterparts when utilizing military-issued tactical radios. Radios must interoperate with civil networks in both line-of-sight and trunked modes. They should provide over-the-air geolocation data and offer National Security Agency Type 1 certification and programmable encryption. These radios facilitate communication on common military and civilian very high and ultra-high frequency AM/FM bands, and grant automatic, instant connectivity among personnel entering the operational area. The encryption provides state-of-the-art security when required. Without these highly capable and interoperable radios, responders risk mission degradation or failure during domestic disaster response operations.
- b.** The National Guard has successfully fielded the Disaster Incident Response Emergency Communications Terminal (DIRECT) and Joint Incident Site Communications Capability (JISCC). After Hurricane Katrina, the National Guard was directed to implement a communications capability in every state and territory to enable C2 during DOMOPS. JISCC platforms were fielded to each state Joint Force Headquarters (JFHQ) to meet the requirement laid out in JROCM 173-06. DIRECT has mostly replaced the JISCC with 44 DIRECT systems fielded to JFHQs. DIRECT is a system comprised of POR and Commercial-off-the-Shelf (COTS) components. The DIRECT fielding was completed in FY 2021. In FY 2022, the National Guard fielded an additional 14 JISCC Block IV systems to augment the DIRECT.

#### **5. Engineering**

- a.** This year's theme is focused on using equipment beyond its Economical Useful Life (EUL). The Army has invested two percent to address the aging fleet. On average, equipment is 15 to 40 years beyond its EUL. Seven priority systems are beyond the EUL that provide adequate ready support for the initial MDO Army of 2030 Force and are CDU for the ARNG. No current solution is planned before 2030 to modernize or address the concerns of aging equipment. Failure to fund the Army's

aging fleet seriously impacts the ARNG Engineering and Mobility portfolio. Engineering systems have been required to extend beyond the EUL, which leaves little budget for procurement to upgrade and divest older pieces of equipment out of the Army's inventory. These decisions have created equipment obsolesces, strained supply chains (domestic and overseas), backorders, and long lead time for parts, all adversely impacting Unit readiness within the Engineer Operational Force.

- b. In limited cases, the ANG is authorized to use NGREA funding to upgrade equipment and vehicles that would otherwise be centrally managed by the AF. The ANG relies on outdated equipment and vehicles, which impact all logistics functional areas and other areas providing Base Operational Support. Centralized procurement of vehicles at the AF level impedes the ANG from modernizing its vehicle fleet at a rate that would have noticeable impact on vehicle readiness. Other centralized management of supply chain functions at the AF level impact the ANG's ability to support federal and DOMOPS requirements. Additionally, 2.03 percent of ANG equipment remains deployed in response to overseas contingencies. These assets must be replaced or modernized to provide the states a domestic response capability when the items return from overseas support to federal missions. Funding is programmed for upgrading Security Forces personal protective equipment, and Space Control vehicles and equipment.

## **6. Medical**

Critical Care Air Transport Team and Aero-medical evacuation equipment is out of date and needs modernization to support contingency operations and DOMOPS. ANG domestic responses routinely include prolonged patient care by Guardian Angel (GA) personnel on HC-130s, HH-60s, and numerous other platforms. GA and the ANG medical element of the Chemical, Biological, Radiological, Nuclear, and High-Yield Explosives (CBRNE) Enhanced Response Force Package (CERFP) relevant, modern, technologically advanced medical equipment is necessary to sustain this life-saving capability and to assure accurate tracking of patient movement. FY 2022 funding is planned to procure oxygen generation, airway management, Guardian Angel personnel, patient tracking, and other medical support equipment, such as Tactical Combat Casualty Care medical kits and Critical Care Air Transport equipment and supplies.

## **7. Security**

ANG Security Forces include over 7,500 Defenders from all wings in all 54 states and territories. Security Forces face an extremely high operations tempo with air expeditionary force deployments and missions in support of civil authorities. The ANG's shortage of available ranges to conduct small arms qualification training degrades wings' operational readiness for all ANG personnel preparing for deployment and to support full spectrum readiness. The ANG is actively filling SF equipment shortfalls using NGREA funds. Within the last few years, the ANG has begun to field portable modular ranges to increase deployment and full spectrum readiness, Counter Small Unmanned Aerial Systems (c-sUAS) to increase the sUAS detection capability, duty gear modernization systems, and DOMOPS response trailers, as well as modernized a



portion of the SF vehicle fleet. These funds have helped and will continue to help Security Forces Defenders meet their Title 10 and domestic response missions. SF personnel have also identified additional equipment requirements that include the following: Compressed Air Launcher System; M18 Block II kits; Enhanced Communication and Hearing Protection System; Less than Lethal Equipment Modernization; Crowd Control Personal Protective Equipment Kit; Utility Task Vehicles; Improved Modular Personal Ballistic Protection Systems; Advanced Individual Trauma Kits; Multi-Trace (Chemical, Explosive and Narcotic) Detection Systems; Advanced Night Vision Systems; Joint Integrated Battle Space Command and Awareness System Kit; Security Forces Resources vehicles; and a Security Forces Climate Clothing System. This equipment and these systems will enable SF Squadrons to provide mission-ready Airmen for federal and domestic missions.

Defensive Systems	Vehicles	Protective Gear/Systems
Compressed Air Launcher System	Security Forces Resources vehicles	Security Forces Climate Clothing System
M18 Block II Kits (Optical Site, illuminator, and holster)	Security Force Patrol Trucks	Improved Modular Personal Ballistic Protection Systems
Crowd Control Personal Protective Equipment Kit	Joint Light Tactical Vehicle	Enhanced Communication and Hearing Protection Systems
Less than Lethal Equipment Modernization	Utility Task Vehicles	Multi-trace (Chemical, Explosive and Narcotic) Detection Systems
Advanced Night Vision Systems		Advanced Individual Trauma Kits
Joint Integrated Battle Space Command and Awareness System Kit		

## 8. Sustainment

The water distribution and a storage capabilities gap continues to grow throughout ARNG units because of the aging condition of the 400-gallon water tank trailers (Water Buffalo), which includes Stage 3 and Stage 4 corrosion issues. The Water Buffalo fleet is operating beyond their lifecycle and the replacement 500-gallon Bison will not relieve the overall problem for the upcoming years. Without the capability, ARNG units will be hampered to organically sustain their operation involving the requirements for potable water for the needs of Army Operations.

## 9. Transportation

- a. The Army’s continued underinvestment in the Tactical Wheel Vehicle (TWV) fleet has led to an overreliance on enduring equipment. In addition, ARNG TWV’s contributions to the Presidential Drawdown effort makes modernization more critical. The ARNG has essential shortages of the Heavy Expanded Mobility Tactical Truck (HEMTT) and the line haul fleet. ARNG has used NGREA funds to bridge some shortfalls. Still, new procurement needs to improve for the ARNG to respond successfully to devastating events and natural disasters, including wildfires, hurricanes, tornadoes, and floods.

b. The ANG aging vehicle fleet continues to outpace recapitalization/programming efforts as reflected by the 15.4 percent increase in additional replacement eligible and unfunded new requirements. The ANG vehicle overall EOH is at 90.2 percent but fill rates do not address significant issues associated with the ANG Vehicle Fleet health rate. Approximately 18 percent of the ANG vehicles in use exceed their life expectancy. Additionally, 13.8 percent of validated vehicle requirements are unfilled. Traditionally, NGREA spending cannot be utilized to sustain vehicle procurement programs. The ANG remains woefully underfunded in the centralized AF Vehicle Procurement program. Established long-term programmatic requirements across the Fiscal Year Defense Plan are needed to bring ANG vehicle health rates to acceptable levels. The ANG has previously used NGREA spending to support modernization efforts for force protection missions, as reflected in the total number of vehicles in use. Nonetheless, the number of vehicles in use that are at or past life expectancy continues to degrade vehicle health rates. Currently, the ANG still fails to meet Air Force Common Output Level Standards (80 percent fleet health rates). ANG fleet procurement and modernization is critical to replace existing vehicles that have passed their lifecycle usefulness to accomplish federal and state missions (see Table B-2).

*Table B-2. ANG Vehicle Fleet Health Rates: August 2022*

Vehicle Categories	Health Rate (%)	Effective Age	Program Funding Deficit (\$)	Fill Rate (%)	Vehicle Age
Passenger Carrying	84.7	16.9	\$4,540,000	93.6	10.0
Medium Tactical	39.5	22.9	\$87,730,000	79.2	21.0
Cargo & Utility	72.3	15.6	\$64,590,000	91.5	14.2
Joint Light-Tactical	72.2	16.3	\$34,040,000	83.3	13.5
Security Tactical	54.6	18.8	\$6,570,000	67.3	13.3
Special Purpose	67.9	18.1	\$115,670,000	95.1	17.5
Fire Fighting	77.9	15.5	\$43,240,000	85.5	13.1
Materiel Handling	70.8	19.2	\$39,300,000	94.7	18.5
Runway/Snow Removal	75.4	17.6	\$36,970,000	98.5	17.4
Base Maintenance & Construction	81.9	15.1	\$49,030,000	90.5	13.5
<b>Summary</b>	<b>70.4</b>	<b>16.8</b>	<b>\$481,680,000</b>	<b>90.2</b>	<b>15.4</b>

## E. Effects of Equipment Shortfalls

### 1. Army National Guard

The ARNG provides a ready-force structure for all mission requirements from combat operations to DSCA/HD response operations. The Army’s resource priorities are heavily distributed to the combat systems and the enabling capabilities that directly support combat structures. Although the ARNG has a balanced posture across the combat fleets, the investment in enduring fleets across the enabling forces barely sustains the production lines to modernize these enduring fleets. Additionally, as the Army transforms to emerging capabilities, the existing enduring platform must compete

against requirements to support these capabilities and the modernization of existing enduring structures. For example, an emerging air defense system uses a medium truck as its primary mover. This system now competes against requirements to modernize existing transportation fleets, sustaining existing trucks longer than the projected EUL. Army acknowledges the risk of delaying the modernization of enduring fleets. Still, this practice has created cost inefficiencies and delayed Research, Development, Test, and Evaluation (RDT&E) for new transportation systems, creating capability gaps across multiple transportation fleets. The ARNG also experiences this challenge in the mobility/engineering platforms extensively used during natural disaster response across the states, territories, and the District of Columbia. The Army plans to modernize critical mobility fleets after the modernization of the Joint Assault Bridge and Assault Breaching Vehicle is complete. This is evident by the data shown in Figure B-2 earlier in this section depicting the modernization of portfolios.

## **2. Air National Guard**

The ANG equipment and vehicles support federal missions and DOMOPS. Shortfalls in equipment and vehicles and failures to modernize them concurrently with active component equipment and vehicles significantly undermines the ANG's ability to support federal and state requirements. These items include equipment that support warfighters through the combatant commands and equipment that supports lifesaving DOMOPS operations during a man-made or natural disaster. Some enhancements to current capabilities that will improve the overall effectiveness of existing efforts include Security Forces equipment and vehicles, CERFP/HRF equipment and vehicles, and C2 existing equipment shortfalls. See Chapter 5, Section II, for additional information on ANG equipment and modernization. ANG Priorities Books can be accessed at <https://www.ang.af.mil/Home/ANG-Priorities-Books/>.

## **3. National Guard Bureau**

### **a. Insufficient Capability to Detect and Identify NTAs at Low Concentration Levels and When Mixed with Interferents**

State and non-state actors are actively researching next generation forms of chemical weapons. Non-state actors have developed and used crude chemical weapons while continuing to refine their recipes, means of delivery, and tactics. The threats are increasing, and the impact of domestic use is high. Therefore, NTA detection gaps incur significant to high operational risk.

### **b. R/N Detection and Identification**

The divestiture of the CBDP eliminated R/N capability development and procurement. Thus, NGB lacks the means to develop, procure, or modernize WMD-CST R/N detection and identification equipment. Eliminating the means for WMD-CSTs to obtain necessary R/N detection and identification equipment incurs unacceptable risk to mission for the WMD-CSTs.

### c. Search and Rescue Reconnaissance

CERFP and HRF S&E Elements must conduct reconnaissance using personnel intensive point and area reconnaissance techniques, delaying the rescue of survivors, and increasing the loss of life.

### d. Enabling Technologies and Capabilities

**(1) National Guard CIMS.** Without fielding and sustaining National Guard CIMS, existing shortfalls in sustaining National Guard CIMS will continue to incur moderate to significant operational risk to mission until existing POR is able to provide necessary modernization and acquisition funding (FY 2024–FY 2025).

**(2) DIRECT and JISCC.** An effort is underway to transition the COTS components of the DIRECT to POR capabilities by working with HQDA's Signal Modernization initiative to increase the Basis of Issue of the remaining POR components. This transition will result in a DIRECT that is wholly comprised of POR capabilities and thus more sustainable. The ANG fielded JISCC Block III to support the HRF/CBRNE Enterprise Response Force Package mission under the requirements in JROCM 162-06.

## 4. Requirements and Acquisition Strategies

### a. Army National Guard

The ARNG employs a balanced modernization strategy that provides capacity and capability for multi-domain and large-scale combat operations and safeguards its robust response capability for DSCA. The ARNG priorities include 1) modernize ARNG Mission Command Systems to increase interoperability with the Active Component, 2) reinvest in Engineer and Mobility equipment to remain deployable to support Combatant Commanders and Governors, 3) modernize CDU equipment to support DSCA, and 4) invest in communication suites and other capabilities. The ARNG supports the Total Force requirements to achieve a fully modernized force but continues to struggle to address modernization gaps especially as the rapid acquisition strategy and technology maturity exceeds the continually constrained resourcing available to fully implement the Army of 2030 modernization strategy.

The ARNG uses authorized substitution equipment to meet mission requirements to support DSCA and combatant commanders. However, maintaining aging equipment has required significant increases in sustainment funding and competing demands to use existing equipment to develop future capabilities are concerns for the ARNG. Additionally, the ARNG understands cascaded equipment is the most efficient method of modernizing the force, but leveraging this methodology may create unfunded requirements to achieve the modernization levels required to support the future force.

The National Guard leverages NGREA to modernize CDU equipment, critical Essential 10 equipment capabilities, and training simulation to mitigate the risk to CDU equipment and domestic response readiness. The ARNG will hold the Army accountable for modernizing equipment to fulfill our requirements to the Joint Warfighters. Although the

ARNG submits recommendations for the CDU equipment list to the Army for vetting and approval biannually, without resources applied against these CDU capabilities, the ARNG will continue to assume risk in modernization.

The ARNG aviation fleet investment in new procurement and modernization allows ARNG leadership the flexibility to achieve long-term goals to support U.S. Army combat needs while meeting states' readiness requirements. The resulting fielding plans consider deployment requirements, individual state requirements, and past performance with respect to flying hour execution.

#### **b. Air National Guard**

The ANG mitigates capability gaps critical to its combat and domestic missions. The process starts through two venues, the ARC Weapons and Tactics Conference and the DCP Conference. The ARC Weapons and Tactics Conference brings together experts from each of the ANG's weapon systems to identify combat mission capability gaps. The DCP Conference brings together first responders and experts in the homeland missions to identify domestic mission capability gaps. These capabilities and associated programs are documented in the annual ANG Weapons Systems Modernization Priorities and DCP books. The capability gaps go through a comprehensive verification and validation process to determine if they are actual requirements that meet identified combatant command or domestic mission shortfalls. The proposed solutions must be sustainable and trainable, meet authorized levels, have facilities to store them, and have a viable acquisition strategy. Finally, these solutions must be supported by affected ANG directorates who can integrate them with current ANG equipment when applicable with a COTS or government solution. The ANG then uses numerous contract vehicles to procure materiel solutions for the identified requirements. Many of these solutions are dual use for combat and domestic missions and are fielded to applicable units.

#### **c. National Guard Bureau**

Recent funding decisions will mitigate many mid- and long-term NG CRE equipment shortfalls. NGB must in the near-term continue to leverage alternate means to mitigate CBRN prevention and response capability gaps. Alternate means include leveraging the COTS Modernization Process within the Joint Program Executive Office (JPEO)-CBRND and RN Future Capability investments within the Defense Threat Reduction Agency. NGB continues to pursue POR for equipment to accomplish the full CRE mission by documenting the requirement; validating the resources; and supporting research, development, and procurement of the solution. NGB is currently developing necessary documentation to obtain POR status for NTA Detection, Mass Decontamination, and UAV/UGV equipment.

## **F. Statement of Accuracy and Certification Relating to National Guard Equipment**

Section 10541(d) of Title 10, U.S.C. requires this report to provide 1) a statement of the accuracy of the National Guard equipment inventory projection reported in previous NGRERs and 2) a certification by the CNGB of the inventory of equipment items that were due procurement for the National Guard in the preceding fiscal year but were not received. Figure B-1 provides a CNGB memorandum regarding “Certification and Statement of Accuracy to Accompany the Annual National Guard and Reserve Component Report.”

## **G. Army National Guard**

The transparency process, in accordance with the FY 2008 National Defense Authorization Act, provides the auditable path of approved funding and new procurement quantities enacted to track appropriated funds and requirements through the acquisition cycle to equipment delivery. Army Regulation 700-142 codifies roles and responsibilities for Transparency Stakeholders with the Assistant Secretary of the Army for Acquisition, Logistics and Technology identified as the overall Army policy lead for Army Transparency.

Army’s ongoing efforts to improve capability to systematically trace fielded equipment back to the procurement appropriation year continues to increase the fidelity required for the ARNG to certify the Equipment Transparency Report. The ARNG made advancements in accounting processes using Item Unique Identification (IUID) over the past year through a collaborative, automated collection tool in the Army Equipping Enterprise System. For the first time, the ARNG was able to certify a portion of the deliveries completed from FY 2013 appropriations forward. Using Army-provided tools and a multi-disciplinary method, the ARNG was able to verify and account for all equipment transactions from Appropriation Years FY 2012–FY 2015. As the Army increases data collection methods using web-based capability improvements, the ARNG is confident it can provide the level of full transparency and accuracy expected by Congress using IUID and the enterprise business intelligence system is achievable to the level of transparency and accuracy expected by Congress. Headquarters, Department of the Army G4 initiated a working group to pursue improvements to the IUID program across the Army. The Army will continue to improve data collection methods through web-based capability improvements and intends to achieve full transparency using IUID as part of Global Combat Support System–Army (GCSS-Army). The Army modified the auditability process to use investment dollar and quantity databases as the reference to audit the transactions because of continuing P-1 and P-1R Form inconsistencies and LIN quantity suppression below the Acquisition Category I level.

As DoD and the Army review IUID implementation policies and guidance, senior leaders and Congress should obtain better budgetary and programmatic performance analysis

support for the NDS. The current efforts, led by the Army, allow the ARNG to trace decisions to defund a program with pending deliveries. With this information, the ARNG was able to verify a program to be closed and acknowledge the non-receipt of equipment. This example highlights that although the ARNG may not always receive projected equipment, it can now certify and have transparency on program performance and fielding decisions. The Army has dramatically improved the automated processes increasing the linkages to critical data elements. The enterprise continues to experience discrepancies in narrative across the databases creating material weaknesses for the ARNG to align funding to equipment projections. The ARNG will continue to work with the Army as the Executive Reporting Agent to Congress on Transparency to certify equipment delivery and the transparency of program performances to support ARNG modernization.

## **H. Air National Guard**

The ANG continues migrating from the Air Force Equipment Management System to DPAS for support equipment. There are new modules and system enhancements in DPAS that will further ANG efforts in total support equipment accountability. ANG vehicles are totally managed using DPAS. The ANG is assured that the data provided by DPAS will enable more effective and efficient resource decision-making. The ANG uses DPAS as the Financial Improvement and Audit Readiness compliant system of record for equipment and vehicles, and is standardizing the order, update, transfer, and disposal of assets using this new system.

As the ANG migrates to DPAS, it is encouraged by the addition of the capability to define equipment authorizations versus on-hand balances. This capability brings added reliability to the data obtained from the single information system and enables base-level users and command managers to validate programmatic requirements. Additional enhancements will allow for single entry of requisitions for equipment into DPAS versus the current process of multiple system entries, which will increase efficiency and improve accountability. Eventually, DPAS will enable the ANG's 90 wings to adjust to and gain understanding of what the system offers in long-term planning and provide immediate accountability in a standardized manner.

The ANG continues to prioritize auditability and accountability of equipment and vehicles for its units. However, challenges frustrate some ANG efforts to adapt to the new system. Implementing such a complex data migration plan while processing supply demands for ongoing operations resulted in instances when data was unavailable because of migration errors or when ANG materiel managers could not depend on the data to make data-driven resource decisions. Other challenges include unique ANG requirements, lingering requisitions, order prioritization, and warehousing functionality limitations. ANG materiel management subject matter experts are working closely with their AF counterparts to identify challenges and communicate lessons learned to the system development team to overcome these obstacles.

The ANG ensures its processes result in defensible, repeatable, and auditable logistics readiness functions. The ANG is confident that as DPAS matures and the ANG learns more about its capabilities, this system will make producing a timely, accurate, and complete view of the state of equipment and vehicles in the ANG possible. The ANG believes DPAS will be a system of record that will enhance the information provided in future National Guard and Reserve Equipment Reports.



## Appendix C

# Principles of Modernization

### I. Reporting Requirements

The Appropriations Subcommittee on Defense reinforced their continued support for maintaining fully modernized reserve components in the Committee on Appropriations, Senate Report 114-263, accompanying the Department of Defense Appropriations Bill, 2017. In their report, they noted that the codification of modernization principles would better allow for transparent appropriation decisions and thus directed the Secretary of Defense to promulgate service standards for reporting modern equipment. The Department responded to this requirement in the FY 2018 NGRER. The Department asked each of the Services to provide their definition of modern equipment and outline principles in order to develop an overarching definition that could be used department-wide. Based on the variation of this input, the Department determined that the term “modern equipment” was too vague and did not lend itself to a single definition. Instead, the Department presented a “modernization model” which proposed modernization criteria and defined standards by which the deployment of Forces could be best planned.

### II. Modernization Model

The modernization model helps categorize equipment within a spectrum of “modernization” using a capability-based equipment planning diagram (Figure C-1). Within this appropriations planning tool, equipment is divided into three specific categories—cutting edge equipment, globally deployable equipment, and not globally deployable equipment—with distinct criteria for each. Use of the model focuses attention on the level of risk being assumed and assists in making investment decisions (upgrade, replace, new procurement, or divest).<sup>1</sup>

The model shows how centrifugal forces such as age, pace of technological advances, and overall capability push equipment “outward” towards obsolescence, while investment in new procurement and upgrades serve as the force propelling equipment “inward” towards cutting edge capability.

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<sup>1</sup> Upgrade means to integrate new technology into existing equipment; Replace means to exchange existing equipment with newer equipment through redistribution or cascading; New Procurement means to supplant existing equipment with newly purchased equipment; Divest means to dispose of outdated equipment no longer needed in the inventory.

### Cutting Edge

**Equipment** is a platform or piece of equipment that completely incorporates the latest technology and innovation. There are no components or sub-components which have upgrades or replacements identified and ready to be fielded. This equipment is within 10 years of its initial operating capability, a gauge of time at which consideration should be given to assessing the equipment and technologies that exist to upgrade, replace, or identify it as no longer “Cutting Edge.”

### Globally Deployable

**Equipment** includes Cutting Edge Equipment and equipment which meets the minimum standards for deployment and mission capability into all planned operating

environments for that specific equipment, including all combatant command areas of responsibility, non-permissive and contested environments. This equipment must be: 1) technically compatible across associated joint and combined forces organizations and 2) logistically supportable—sufficiently sustainable in any deployment environment with existing maintenance support and supply chain.

### Not Globally Deployable Equipment

is all equipment that does not meet the criteria to be categorized as Globally Deployable or Cutting Edge Equipment. This equipment may be capable to meet mission requirements in certain operational requirements or deploy to certain combatant command areas of responsibility but is not appropriate for use in a planned operating environment.

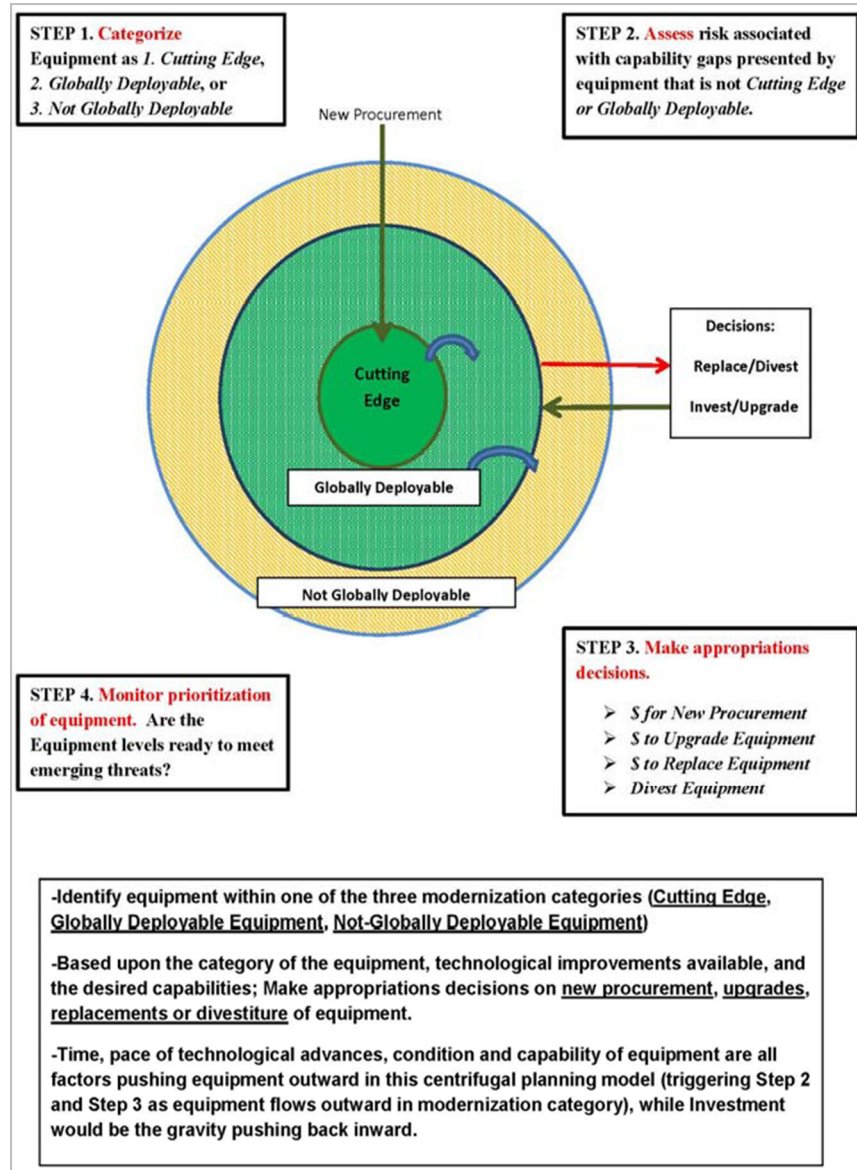
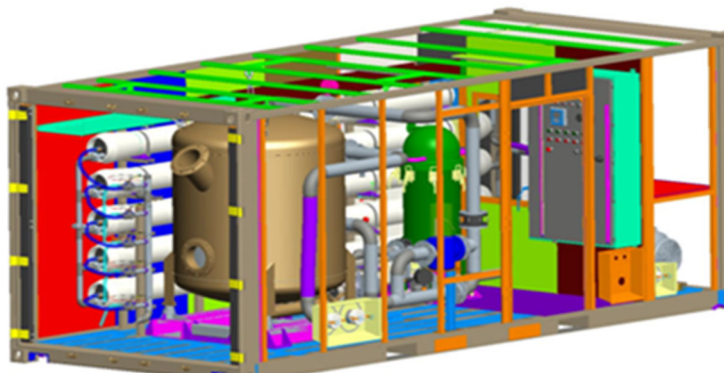


Figure C-1 Codification of Modernization

## Example: Tactical Water Purification System (TWPS)

**Capability Description:** The 3K Tactical Water Purification System (TWPS) uses state-of-the-art reverse osmosis technology to produce potable water from any source, including salt water and nuclear, biological, and chemical (NBC) contaminated water. It is a complete water purification



system that consists of feed water pumps, hoses, multimedia and cartridge filters, a high-pressure pump, reverse osmosis elements, a 3,000 gallon water storage & distribution system, and a control panel. It is configured within an 8' x 8' x 20' container and mounted on a trailer towable by a M1088 tractor. The 3K TWPS will replace the 3,000 gallon per hour Reverse Osmosis Water Purification Unit (ROWPU) on a one for one basis.

**Fleet Composition:** The COMPO-3 Army Acquisition Objective (AAO) for the 3K TWPS is 82 systems. The USAR currently has no 3K TWPS on hand. Instead, USAR employs 49 legacy 3K ROWPU (63 percent of the current AAO) with an average fleet age of 25 years.

**Maintenance:** The 3K ROWPU has a current Operational Readiness rate of 63 percent. Multiplied by the current O/H rate of 63 percent yields an overall readiness rate of 40 percent. This legacy system is beyond its useful life and is increasingly difficult to maintain due to obsolescence of several repair parts. The cost to rebuild the legacy ROWPU is currently \$1.2 million and the replacement cost is \$846 thousand.

**Funding:** USAR is programmed to receive 1.8 percent of the Army equipping budget from FY 2024– FY 2028 appropriations. Using Base funds, USAR anticipates procuring one 3K TWPS in FY 2025 followed by an additional 30 systems total over FY 2026– FY 2028. Under the current procurement plan, at the end of FY 2028, USAR will still be short 51 systems (\$37.3 million).

**Industry:** Awaiting contract award.

**Other Considerations:** The USAR owns 50 percent (13 of 26) of the Total Army water support companies. Of the 13 water support companies, nine are required to deploy within 0–60 days and one is required to deploy within 0–30 days in support of large scale combat operations (LSCO). Notably, there are no alternate sourcing solutions in either the EUCOM or INDOPACOM AORs to provide bulk water purification support.

**Summary:** As the Army Reserve plays a significant role in water production and purification for the Total Army, the operational readiness rate of 40 percent creates a pressing problem across the force and is creating an inability to provide capability to Combatant Commanders. If this capability is not modernized, units will not be able to produce sufficient potable water for LSCO in multi-domain environments against a near-peer force. Prioritizing the procurement and fielding the 3K TWPS remains the only viable option to close modernization gaps and bring this critical capability from minimally globally deployable to cutting edge.

## Appendix D

# Joint Assessment on Efforts to Achieve Parity (Army)



DEPARTMENT OF THE ARMY  
WASHINGTON DC 20310

MEMORANDUM FOR Deputy Assistant Secretary of Defense for Readiness, 1500  
Defense Pentagon, Washington, DC 20301-1500

SUBJECT: Joint Parity Assessment - National Guard and Reserve Equipment Report

1. References: Title 10 United States Code, Section 10541, "National Guard and Reserve Component Equipment: Annual Report to Congress."
2. In accordance with the reference, we submit our joint assessment on the efforts to achieve parity of modernized equipment for Fiscal Year 2024 (FY24) among the Active Component, Army National Guard, and Army Reserve with the enclosed report (National Guard and Reserve Component Equipment Report). This assessment reveals that although the Army lacks full equipping parity across all capabilities and formations, the Army modernization efforts and investments are being arrayed to ensure interoperability, deployability, and sustainability.
3. The Army is committed to modernizing the Active Component, Army National Guard, and Army Reserve to ensure like formations are combat-effective, interoperable, deployable, and sustainable. The Army manages parity between like-component formations and equips units based on Combatant Commanders requirements and employment timelines supporting the National Defense Strategy within the resources available. Based on this year's strategic assessment, projected major equipment distribution was reduced in two (Bradley and Blackhawk) of the seven systems in the Reserve Components. The major contributing factors to these reductions include fiscal pressure as well as slowed procurement timelines.
4. The Regionally Aligned Modernization Model (ReARMM) reached initial operational capability in FY22 and will influence the prioritization and pace of modernization once fully implemented in FY24. The ReARMM is the Army's force generation model designed to respond to the demands of combatant commands, while creating the space and time to modernize the force through predictability, stability, and synchronization.

SUBJECT: Joint Parity Assessment - National Guard and Reserve Component  
Equipment Report

5. The point of contact for this memorandum is Colonel David K. Moser, Chief,  
Resource Documentation Division, at 703-695-4593 or david.k.moser.mil@army.mil.

  
DANIEL R. HOKANSON  
General, United States Army  
Chief, National Guard Bureau

  
JAMES C. MCCONVILLE  
General, United States Army  
Chief of Staff

Encl  
as

CF:  
Assistant Secretary of the Army (Manpower and Reserve Affairs)  
Director, Army National Guard  
Chief, Army Reserve

This is the fifth annual joint (CSA and CNGB) assessment of the Army's efforts to achieve parity as required by the amended Section 111 of the 2019 National Defense Authorization Act (NDAA), 10541 of Title 10, U.S.C. Title 10 USC 10541 directed an assessment of the modernization and parity of five systems: Abrams, Bradley, Stryker, Apache, and Black Hawk.<sup>1</sup> The three Army components agreed to include two additional systems for modernization assessment. The first is the Joint Battle Command–Platform (JBC-P) because it affects interoperability across the components. The second is the Load Handling System (LHS) Compatible Water Tank Rack (HIPPO) with 2,000-Gallon capacity because it is a critical materiel solution for large scale combat operations gap #4 and a crucial Critical Dual Use item. The Army's top priority through 2023 is rebuilding warfighting readiness. As the Army rebuilds readiness, there will be simultaneous efforts on research and development for the six modernization priorities: Long-Range Precision Fires Next Generation Combat Vehicles, Future Vertical Lift, Air and Missile Defense Capabilities, Army Network, and Soldier Lethality.

The Army assessed modernization and parity among the separate components by comparing each system's total component requirement against the system's "modern" and "most modern" variants for FY 2023 and the latest Army approved position of FY 2028.<sup>2</sup> The Army identified all the line item numbers (LINs) of these systems, their modernization level (as described below), and their authorization and on-hand quantities<sup>3</sup> by component for FY 2023 and FY 2028.<sup>4</sup> The analysis included a summary of requirements, on-hand quantities, and a parity assessment for the five high-priority items of equipment required by Title 10 U.S.C. 10541, as well as two other items included by agreement with all components of the Army.

**Definition of Modern Equipment:** The Army categorizes equipment in modernization levels (MLs) based on the Acquisition Phases established in the Department of Defense 5000 instruction series. Our most modern equipment, approaching the end of Engineering, Manufacturing and Development (EMD) or in low-rate initial production (LRIP), is in ML5. This early classification facilitates documentation and planning before fielding begins. ML4 equipment is normally in full-rate production, with the Army modernizing as quickly as resources and production allow procurement. In the sustainment phase, equipment is mostly in ML3. Equipment that is no longer adequate for combat or is for training purposes only is in ML2. ML1 represents obsolete equipment Army does not authorize for documentation on a unit's Modified Table of

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<sup>1</sup> H.R.5515, "John S. McCain National Defense Act for Fiscal Year 2019." Subtitle B Army Programs, SEC. 111, Amended. National Guard and Reserve Component Equipment Report.

<sup>2</sup> OSD guidance was for the Army to provide an assessment of the current year FY 2023 to FY 2026. Army compared FY 2023 to FY 2028, which is the approved Army modernization position, to provide a complete picture for the system modernization path.

<sup>3</sup> LINs data generated from the Army Common Operating Picture (AR-COP) inventory file as of date 22 August 2022.

<sup>4</sup> Structure and Composition System 2012 database used to depict current modernization levels and modernization levels from the Army Equipping and Enterprise System (AE2S) LIN details for August 2022.

Organization and Equipment (MTOE). To facilitate discussion—“modern” refers to ML3 equipment and “most modern” refers to ML4 and ML5 equipment.

The one standard to measure readiness and equipping must assess how well we are modernizing equipment for all components. The objective of Army equipping is to maintain the highest level of unit readiness to provide Soldiers and formations the most modern equipment available. This one standard must distinguish between equipping readiness based on today’s requirements and the modern requirements of tomorrow.

**Definition of Parity:** Section 10541(b) of Title 10 requires *“a joint assessment by the Chief of Staff of the Army and the Chief of the National Guard Bureau on the efforts of the Army to achieve parity among the active component, the Army Reserve (USAR), and the Army National Guard with respect to equipment and capabilities.”*

This joint assessment will compare inventories of the following equipment in each component:

- (A) AH–64 Attack Helicopters;
- (B) UH–60 Black Hawk Utility Helicopters;
- (C) Abrams Main Battle Tanks;
- (D) Bradley Infantry Fighting Vehicles;
- (E) Stryker Combat Vehicles; and
- (F) Any other items of equipment identified as high priority by the Chief of Staff of the Army or the Chief of the National Guard Bureau.

The definition of parity as articulated in statute implies parity as being the same variant of a weapon system, platform, or capability within like formations in each component. In other words, the exact same equipment across same MTOE units in the total Army or “pure-fleet.” However, finite resources, extended procurement, and distribution timelines limit the Army’s ability to equip all like-type formations with the same variants of key equipment. Additionally, to deter and defeat the most dangerous threats effectively, the Army must maintain capability overmatch of key weapon systems with near-peer adversaries by developing and fielding improved, more lethal capabilities to the force while simultaneously maintaining sufficient capacity. Consequently, Army leadership will assume risk by fielding some formations with less modern but still interoperable and capable variants of key systems to balance capability and capacity requirements.

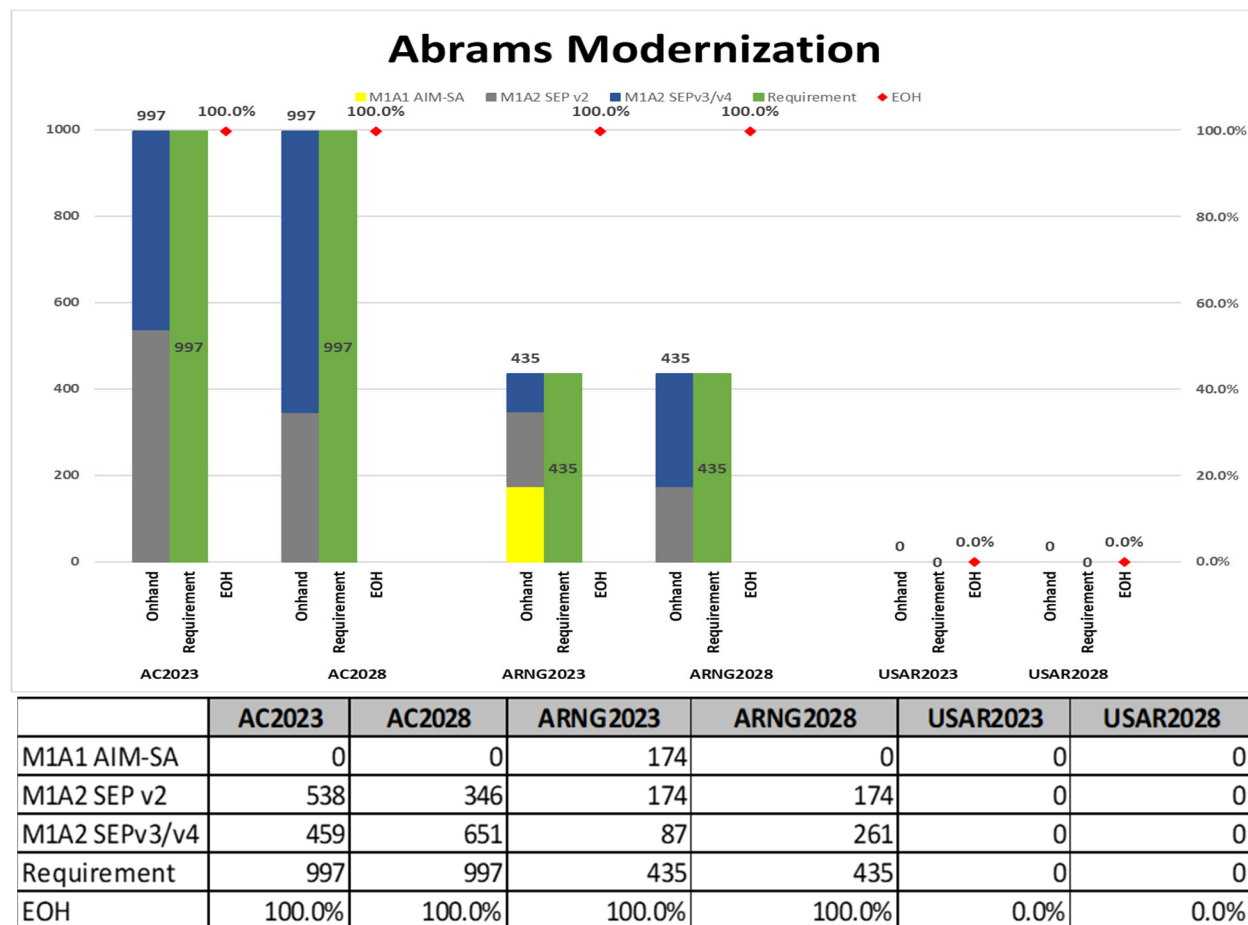
## I. Joint Assessment

The Army remains focused on transforming into a Multi-Domain Force. During transformation, the Army must maintain readiness to fulfill joint force requirements while ensuring modernization. The Army’s Regionally Aligned Readiness and Modernization Model (ReARMM) provides ready Army forces to combatant commanders while providing dedicated times for its units to modernize. Of the seven systems assessed, the Army has sufficient ML3 and ML4 equipment on hand to meet priority mission requirements. However, a higher percentage of ML4 items reside in the Active



Component (AC) (COMPO 1) as guided by the ReARMM framework and available resources.

### A. Abrams Main Battle Tank



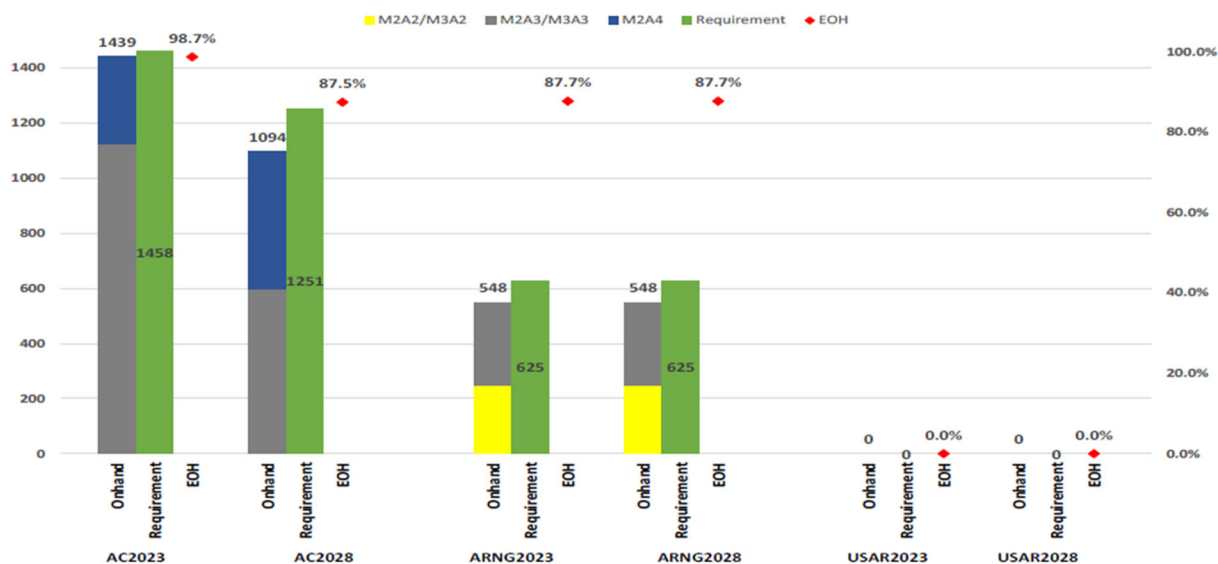
The Army currently employs three variants of the Abrams tank: the M1A1 AIM-SA, M1A2 SEP v2, and the M1A2 SEpv3. The newest tank, the M1A2 SEpv3, is in production and began fielding in FY 2020. The Army plans to produce half to three quarters of an Armored Brigade Combat Team (ABCT) set of SEpv3 tanks per year beginning in FY 2023, based on programmed funding. Per Headquarters, Department of the Army (HQDA), Executive Order (EXORD) 267-20, Modernization of Abrams and Bradley Fleets, the M1A2 SEpv3 has been fielded to APS (Set# 1); is currently being fielded to AC units (Set# 2–6) and will be fielded to Army National Guard (ARNG) units (Set# 7–9) to replace the M1A1 AIM-SA, between FY 2023 and FY 2026.

Beginning in FY 2027, the M1A2 program of record will see a substantial lethality enhancement with the adoption of the M1A2 SEpv4 systems. The M1A2 SEpv4 will be fielded with 3rd Generation Forward Looking Infrared, improved Commander and Driver’s Primary Sights, engine fuel usage and reliability improvements, and an improved thermal management system (electric).

**Parity Assessment.** The Army is committed to continuing Abrams modernization. To date, the Army has equipped APS (Europe) and four AC Armored Brigade Combat Teams with M1A2 SEPv3 tanks. The 5th AC Armored Brigade Combat Team begins fielding in January 2023 and the first ARNG Armored Brigade Combat Team (278th TN ARNG) begins fielding in May 2023. The Army expects to complete two additional ARNG ABCT M1A2 SEPv3 fieldings by 2026, facilitating divestiture of M1A1 AIM-SA tanks.

## B. Bradley Fighting Vehicle

### Bradley Modernization



	AC2023	AC2028	ARNG2023	ARNG2028	USAR2023	USAR2028
M2A2/M3A2	0	0	250	250	0	0
M2A3/M3A3	1124	597	298	298	0	0
M2A4	315	497	0	0	0	0
Requirement	1458	1251	625	625	0	0
EOH	98.7%	87.5%	87.7%	87.7%	0.0%	0.0%

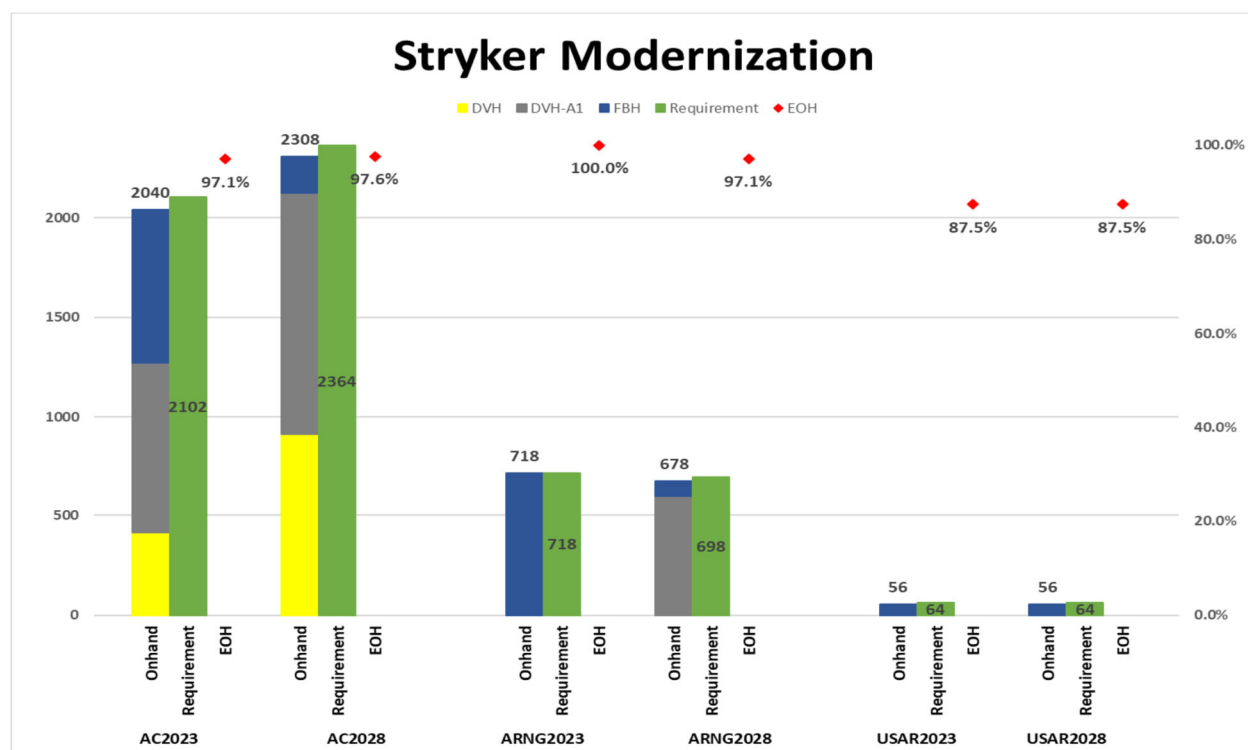
The Army currently employs three Bradley variants for training and operations: M2A2 ODS-SA, M2A3, and M2A4. The M2A4, the newest upgrade to the Bradley Family of Vehicles, is a limited procurement that began fielding in FY 2022. As the Army fields the M2A4 to AC units, displaced M2A3s will cascade to modernize ARNG ABCTs. In addition, a recent force structure change adds a requirement for 106 M2A3s for USAR Engineer Battalions. The Army intends to resource this requirement with cascaded equipment after Optionally Manned Fighting Vehicle production and fielding begin (not earlier than 2030).

There is minimal operational risk with having three ARNG ABCTs equipped with M2A2 ODS-SA Bradleys. Two ARNG ABCTs have already been modernized with M2A3 Bradleys. Two more will receive cascaded M2A3s by the end of FY 2025. The Army

plans to procure and field its final ABCT set of M2A4s by FY 2030 and cascade M2A3s to the final ODS-SA equipped ARNG ABCT, but resources have yet to be programmed to procure this final ABCT set of M2A4s. The M2A3 and ODS-SA variants are largely similar. The primary difference is the M2A3 is equipped with the Commander’s Independent Viewer (CIV), a thermal sight which enhances the survivability and lethality of the M2A3 variant.

**Parity Assessment.** The ARNG will receive M2A3 variants from the AC beginning with the 278th TN ARNG ABCT in FY 2023. The Army is working on a plan to modernize the final two ARNG ABCTs by 2030.

### C. Stryker Vehicle



	AC2023	AC2028	ARNG2023	ARNG2028	USAR2023	USAR2028
DVH	414	912	0	0	0	0
DVH-A1	856	1212	0	602	0	0
FBH	770	184	718	76	56	56
Requirement	2102	2364	718	698	64	64
EOH	97.1%	97.6%	100.0%	97.1%	87.5%	87.5%

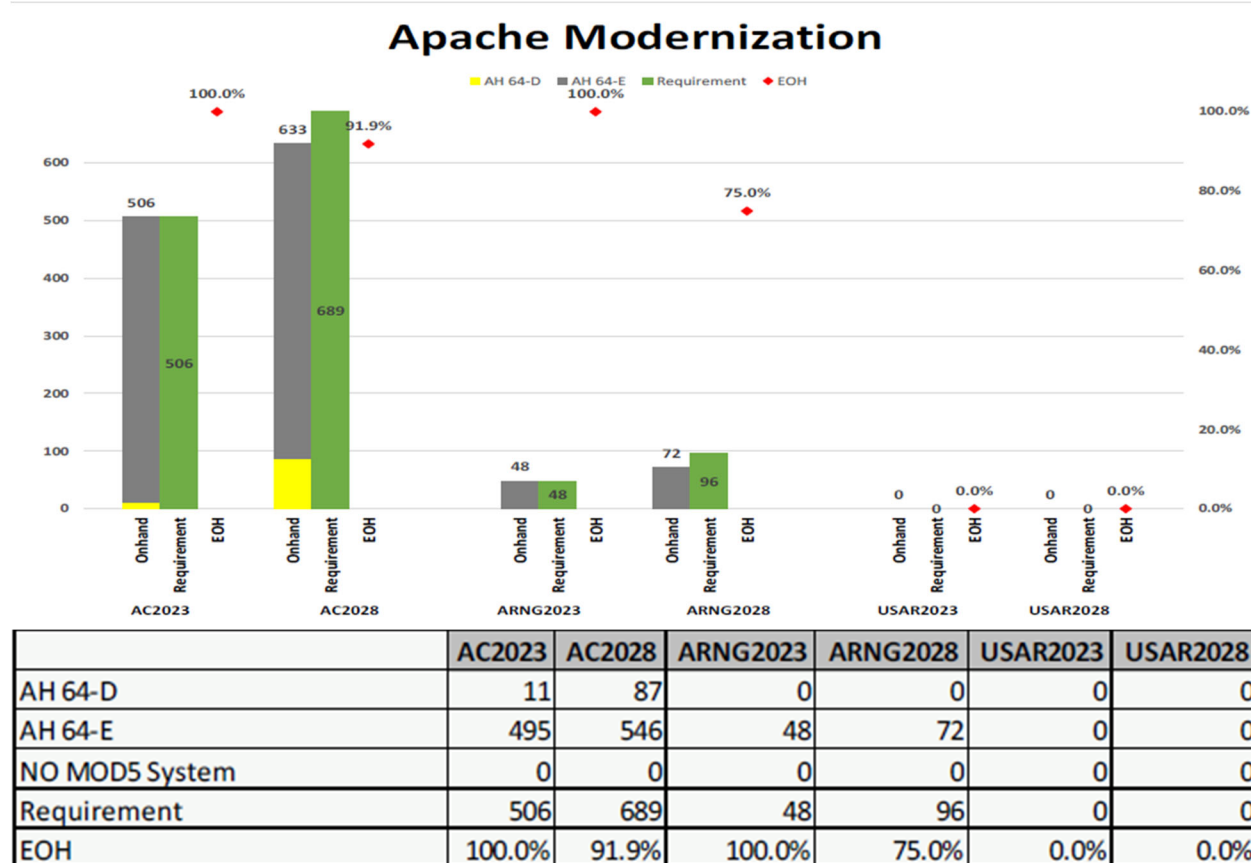
Currently, there are eight Stryker Brigade Combat Teams (SBCTs) in the Army: two Double-V Hull A1 (DVHA1), three Double-V Hull (DVH) SBCTs, and three Flat Bottom Hull (FBH) SBCTs. The AC SBCTs comprise six SBCTs: two DVHA1 SBCTs, three DVH SBCTs and one FBH SBCT. There are two FBH SBCTs in the ARNG. There are 56 Nuclear Biological Chemical Reconnaissance Stryker variants (FBH) in the Army Reserve.

Stryker modernization includes two parallel efforts: FBH to DVHA1 conversions and lethality upgrades. Lethality enhancements include upgrading remote weapon stations to Common Remotely Operated Weapon Station-Javelin systems; upgrading the Modified Improved Target Acquisition System (MITAS) on the Anti-Tank Guided Missile vehicle; and integrating a 30mm Medium Caliber Weapon System in an unmanned turret.

The FBH SBCTs (one AC and two ARNG) have greater strategic mobility but reduced protection to underbelly blast when compared to the DVH or DVHA1 SBCTs.

**Parity Assessment.** The current procurement plan to upgrade to the DVHA1 spans approximately 14 years. The DVHA1 fielding started in FY 2021 and will equip six SBCTs, to include the 81st ARNG SBCT, by 2031. The Army is reviewing plans to address DVHA1 upgrade for the last three SBCTs, to include the 56th SBCT.

### D. AH-64 Apache



The Army has two variants of Apache in inventory, the AH-64D and the AH-64E which is the most modernized version of the Apache in the inventory.

The modernization strategy for Apache is the remanufacture of the current AH-64D using a new airframe and re-using over 700 parts. Improvements to the Apache include

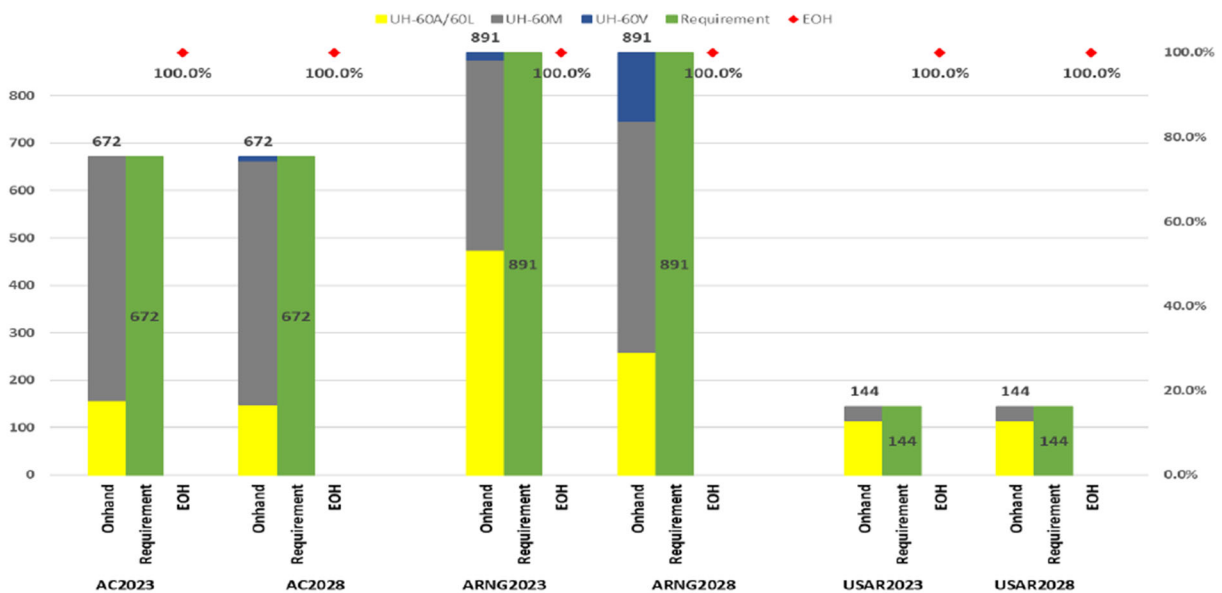
improved drive and propulsion systems, composite main rotor blades, unmanned aircraft system (UAS) level III-IV control, improved communications suite, Link-16 radio, Removable Crashworthy Fuel System, Maritime Targeting Mode on the Fire Control Radar, Modernized Radar Frequency Interferometer, Image Blending, multi-mode laser, Joint Air Ground Munition (JAGM), and many others. These improvements make the AH-64E the premier Attack Helicopter in the world for the foreseeable future.

The Army will field all four ARNG Attack Reconnaissance Battalions with 24 AH-64Es in FY 2022, FY 2023, FY 2025, and FY 2026. The Active Component will only field 20 of 22 AH-64E battalions and will retain two D-model battalions until the Army fields Future Attack Reconnaissance Aircraft beginning in FY 2030/31 timeframe. The risks associated with a mixed fleet of AH-64 variants include the requirement to maintain separate prescribed load list/supply chains, redundant maintenance support for both fleets, interoperability issues, training issues at the institutional and at the unit level and obsolescence issues.

**Parity Assessment.** Under the current fielding plan, the Army expects to achieve parity for the AH-64E in the ARNG by FY 2027.

### E. H-60 Black Hawk

#### Black Hawk Modernization



	AC2023	AC2028	ARNG2023	ARNG2028	USAR2023	USAR2028
UH-60A/60L	158	148	475	260	114	114
UH-60M	514	514	400	487	30	30
UH-60V	0	10	16	144	0	0
Requirement	672	672	891	891	144	144
EOH	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

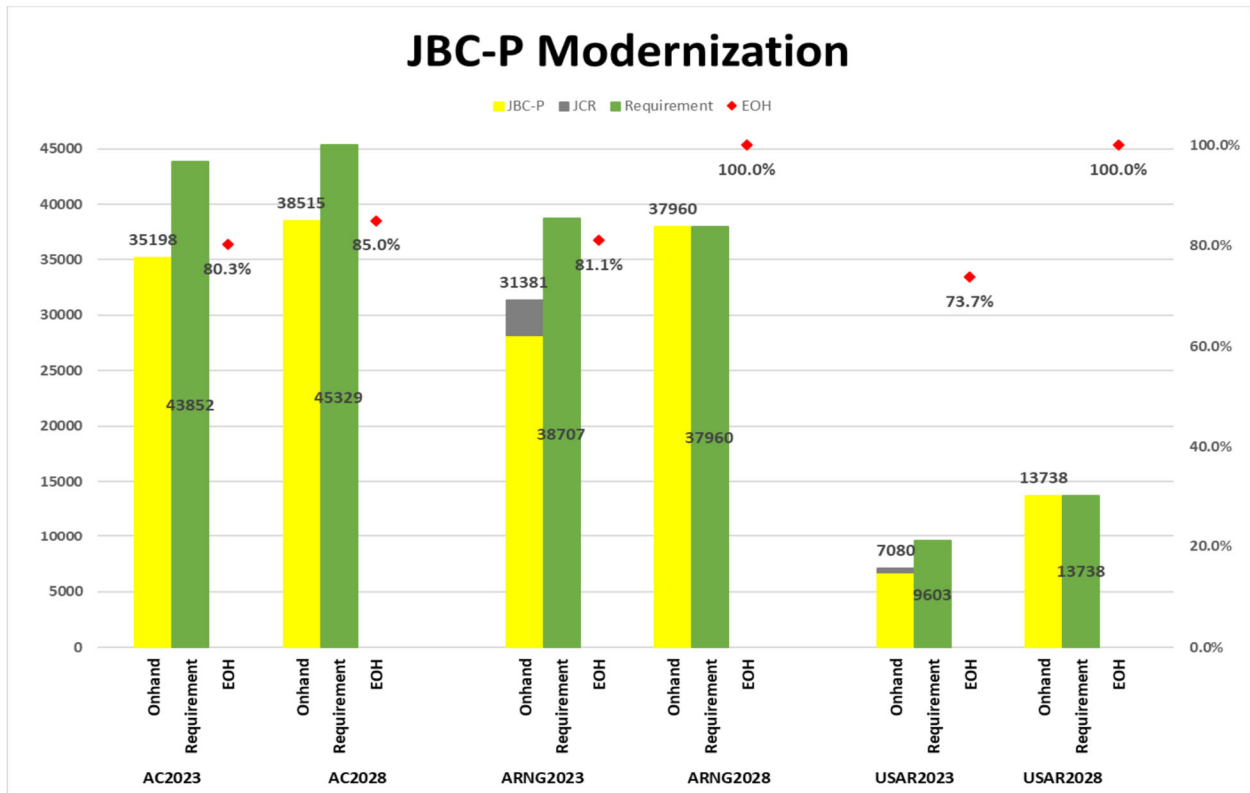
The Black Hawk is the only multi-purpose medium-lift helicopter in the Army's inventory. During the FY 2023–FY 2028 timeframe, six (6) Black Hawk variants (UH-60M/HH-60M/UH-60V/UH-60V MED/UH-60L/UH-60L MED) will fully support Army Utility Helicopter operational mission requirements.

The Army completed divestment of all Army National Guard UH-60A Black Hawk helicopters on 6 October 2022 and remains on track to divest the remaining Active Component Table of Distribution and Allowance (TDA) support UH-60A aircraft in FY 2024. Utility Helicopter modernization continues with the procurement of new build UH/HH-60Ms through FY 2026, the recapitalization (RECAP) of select UH-60Ls to the UH-60V variant through FY 2030, and the divestment of UH-60L no longer required based on Army Force structure changes. The Army's objective of 891 modernized Black Hawk helicopters to support ARNG requirements will be achieved in FY 2034, reliant upon stable Congressional funding.

The 891 ARNG Black Hawk requirement represents Modified Table of Equipment (MTOE) and Augmented TDA (AUGTDA) unit requirements only. An additional 30 aircraft are authorized for ARNG TDA units and are not typically accounted for in NGRER data submissions. The total ARNG Black Hawk requirement is 921 aircraft.

**Parity Assessment.** Fulfillment of the ARNG's end-state requirement of 921 modernized Black Hawks (H-60M/V) remains on track for completion in FY 2034; however, future Force Structure and budgetary decisions could impact the Army's ability to meet FY 2034 objectives.

### F. Joint Battle Command–Platform (JBC-P)



	AC2023	AC2028	ARNG2023	ARNG2028	USAR2023	USAR2028
JBC-P	35198	38515	28161	37960	6705	13738
JCR	0	0	3220	0	375	0
NO MOD5 System	0	0	0	0	0	0
Requirement	43852	45329	38707	37960	9603	13738
EOH	80.3%	85.0%	81.1%	100.0%	73.7%	100.0%

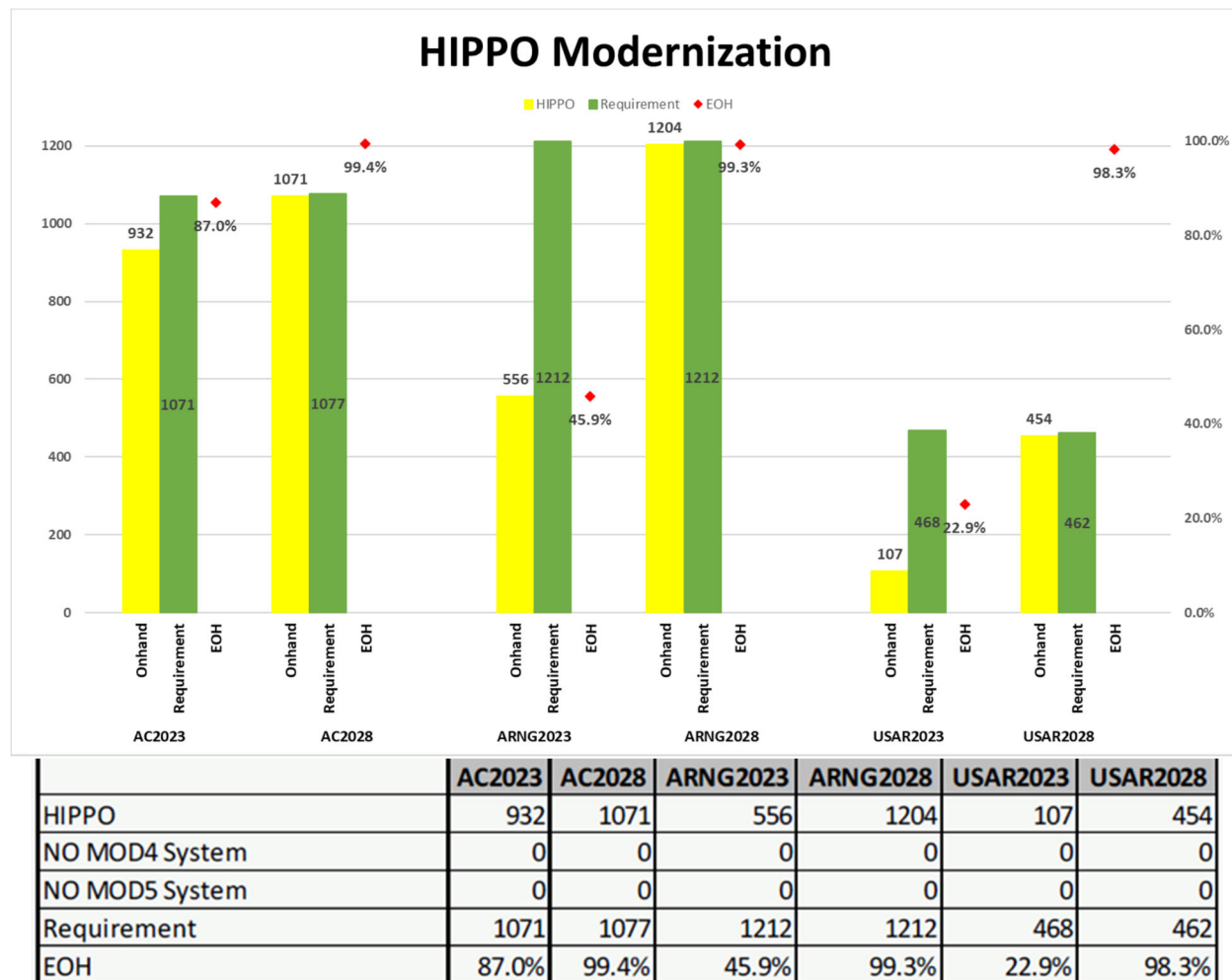
The JBC-P provides Mission Command-on-the-Move and situational awareness across all echelons and formation types. As part of the Mission Command modernization strategy, the Army chose to include JBC-P as an additional system in this report to highlight the importance of mission command interoperability to meet the Army’s requirements in multi-domain and Joint operations.

The Army is modernizing the JBC-P family of systems by divesting the Joint Capabilities Release and replacing it with the JBC-P. The less modernized JBC-P systems do not address today’s cyber vulnerabilities. The Army accelerated this replacement by increasing JBC-P investments by \$781 million above the previous base in FY 2017–FY 2022.

**Parity Assessment.** The Army is reviewing requirements to ensure they provide fully interoperable Command and Control and situational awareness capabilities to the Total Force. Further analysis may increase the objective end-state requirements as Army

Force Structure continues to evolve—influencing what is parity and when we achieve it. The Army expects to pure-fleet JBC-P to the Army Procurement Objective by FY 2025.

### G. Load Handling System (LHS): 2,000 Gallon Comp Water Tank-Rack (HIPPO)



The HIPPO is the Load Handling System Compatible Water Tank Rack System with a 2,000-gallon potable water tank mounted in an International Organization for Standardization frame. The HIPPO has freeze protection and has a water pump, hose reel, and filling station. It can execute bulk load and discharge, retail distribution, and bulk storage of potable water. The HIPPO replaced the 3,000 Semi-Trailer Mounted Fabric Tank and most Forward Area Water Point Supply systems.

The HIPPO provides unit distribution and supply point distribution capability to our force. The Army will employ the HIPPO throughout the theater of operations and as far forward as the Brigade Support Area. The HIPPO will support combat arms, combat service, and combat service support units within the corps/division area. The HIPPO allows water transport directly from water purification points to the supported maneuver units.



Consistent with the Army's equipping priorities, the Active Component has been filled to nearly 80 percent of its requirement with prior year funding.

**Parity Assessment.** Army National Guard and Army Reserves, currently filled at 40 percent and 10 percent respectively, are projected to receive the majority of HIPPOs over the next several years. The Army expects both the Army National Guard and Army Reserves to attain parity by FY 2028.

## Appendix E Points of Contact

### DEPARTMENT OF DEFENSE

**Office of the Assistant Secretary of Defense for Manpower and Reserve Affairs**

**ATTN: OASD(M&RA) RI  
1500 Defense Pentagon, Room 2E586  
Washington, DC 20301-1500**

Mr. Judd Lyons  
Deputy Assistant Secretary of Defense for Manpower and Reserve Affairs  
(Reserve Integration)  
(703) 693-7495

Mr. Jim Schroeder  
ODASD (Reserve Integration)  
Director, Materiel and Facilities  
(703)571-3154  
James.h.schroeder6.civ@mail.mil

COL Travis Delk  
ODASD (Reserve Integration)  
Deputy Director, Equipment Resources and Evaluation  
(703) 693-2134  
travis.c.delk.mil@mail.mil

### NATIONAL GUARD BUREAU

**Office of Chief, National Guard Bureau**

**ATTN: OCNGB  
1636 Defense Pentagon  
Suite 1E169  
Washington, DC 20301-1636**

General Daniel R. Hokanson  
Office of the Chief of the National Guard Bureau  
ATTN: OCNGB  
1636 Defense Pentagon, Suite 1E169  
Washington, DC 20301-0001

Mr. Robert Degraffenreid (Deputy Director Logistics, NGB-J3/4/7)  
(703) 601-6945  
Robert.e.degraffendreid.civ@mail.mil

Colonel Kenneth Lozano (NGB-J34)  
(703) 607-8406  
kenneth.lozano.mil@mail.mil

## **UNITED STATES ARMY**

**Office of the Assistant Secretary of the Army for Manpower and Reserve  
Affairs**

**ATTN: SAMR-FMMR  
111 Army Pentagon, Room 2E485  
Washington, DC 20301-0500**

COL Dan Cole (ASA/M&RA)  
(703) 692-0677  
Daniel.a.cole.mil@mail.mil

COL Kevin Ressel (NGB ARNG)  
(703) 607-7891  
Kevin.d.ressel.mil@army.mil

COL Douglas Ludwick (OCAR-SED)  
(703) 806-7266  
Douglas.a.ludwick.mil@army.mil

## **UNITED STATES MARINE CORPS**

**Headquarters, United States Marine Corps  
Office of Marine Forces Reserve  
Naval Support Facility Arlington  
701 South Courthouse Rd  
Bldg. 12, Suite 2R125  
Arlington, VA 22204-2463**

CAPT Al Conception (DASN(RA))  
(703) 693-0242  
Alvin.c.conception2.mil@us.navy.mil

Maj Eugenio Razo (DASN(RA))  
(703) 693-0242  
Eugenio.a.razo.mil@us.navy.mil

LTC John Pomy (MARFORRES)  
(703)604-4590  
John.pomy@usmc.mil

## **UNITED STATES NAVY**

**Headquarters, United States Navy  
Office: Chief of Naval Operations  
ATTN: CNO-N0958E  
2000 Navy Pentagon  
Washington, DC 20350-2000**

CAPT Al Conception (DASN(RA))  
(703) 693-0242  
Alvin.c.conception2.mil@us.navy.mil

Maj Eugenio Razo (DASN(RA))  
(703) 693-0242  
Eugenio.a.razo.mil@us.navy.mil

CAPT Damon Hildebrand (OCNR)  
(703) 614-4378  
Damon.v.hildebrand.mil@us.navy.mil

## **UNITED STATES AIR FORCE**

**Headquarters, United States Air Force  
ATTN: SAF/MRR (Reserve Affairs)  
1660 Air Force Pentagon, Room 5D742  
Washington, DC 20330-1660**

Col Marc Henri (SAF/MRR)  
(703) 564-6311  
Marc.henri.mil@us.af.mil

Col Larry Werbiski (NGB/A4)  
(240) 612-7624  
Larry.j.werbiski.mil@mail.mil

Lt Col Robert "Dusty" Dossman (AF/RE)  
(703) 697-2085  
Robert.d.dossman.mil@mail.mil

**UNITED STATES COAST GUARD**

**Commandant (CG-13)**

**ATTN: Director Reserve & Military Personnel**

**United States Coast Guard**

**2703 Martin Luther King Jr. Ave, S.E. Stop 7907**

**Washington, DC 20593-7801**

LCDR Baron Rickenbaker

(202) 414-6159

Baron.z.rickenbaker@uscg.mil

LT Justin Goodrum

(202) 475-5437

Justin.a.goodrum@uscg.mil

## Appendix F Acronym Glossary

<b>Acronym</b>	<b>Nomenclature</b>
AAO	Approved Acquisition Objective (Marine Corps)
AAV	Amphibious Assault Vehicle
ABCT	Armored Brigade Combat Team
AC	Active Component
ACA	Aerospace Control Alert
ACC	Air Combat Command
ACS	Agile Combat Support
ACV	Amphibious Combat Vehicle
ADS-B	Automatic Dependent Surveillance-Broadcast
AEA	airborne electronic attack
AEG	Army Equipping Guidance
AESA	Active Electronically Scanned Array
AFB	Air Force base
AFR	Air Force Reserve
AFRC	Air Force Reserve Command
AFSOC	Air Force Special Operations Command
AFSPC	Air Force Space Command
AGSE	aviation ground support equipment
AH	attack helicopter
AIFF	advanced identification, friend or foe
AM	amplitude modulation
AMC	Air Mobility Command (Air Force)
AMCM	airborne mine countermeasures
AMD	Air and Missile Defense
AMP	Avionics Modernization Program
ANG	Air National Guard
AOG	Air Operations Group
AR	Army Reserve
ARB	Air Reserve Base (Air Force)
ARC	Air Reserve Components
ARFORGEN	Army Force Generation
ARI	Aviation Restructuring Initiative
ARNG	Army National Guard
ASW	antisubmarine warfare
ASUW	anti-surface warfare
ATM	Air Traffic Management
BA	Battlefield Airmen
BATS	Battlespace Access Training Systems
BCA	Budget Control Act of 2011
BCC	Battle Control Center (Air Force)
BCT	brigade combat team

BFRMP	Boat Forces Reserve Management Plan
BLOS	beyond line-of-sight
BOIP	Basis of Issue Plan
C2	command and control
C4I	command, control, communications, computers, and intelligence
CAF	combat air forces
CART	cargo afloat rig team
CBPS	chemical/biological protective shelter
CBRN	chemical, biological, radiological, and nuclear
CBRNE	chemical, biological, radiological, nuclear, and high-yield explosives
CBT	common bridge transport
CCDR	combatant commander
CCMD	combatant command
CCT	Combat Controller Team
CDU	Critical Dual Use
CERFP	CBRNE Enhanced Response Force Package
CFT	Conformal Fuel Tanks
CNGB	Chief, National Guard Bureau
CNIFR	Commander, Navy Information Force Reserve
CNO	Chief of Naval Operations
CNS	Communication, Navigation, Surveillance
COMBATCAM	combat camera
CONUS	continental United States
COP	common operational picture
COTS	commercial off-the-shelf
CRC	control and reporting center
CRE	CBRN Response Enterprise
CRF	Coastal Riverine Force
CROWS	Common Remotely Operated Weapon Station
CRP	Core Radio Package
CRS	coastal riverine squadron
CSS	combat service support
CST	Civil Support Team
CTC	Combat Training Center
CTOC	Counter-Transnational Organized Crime
CW	cyber warfare
DC CD&I	Deputy Commander for Combat Development and Integration
DC I&L	Deputy Commander for Installations and Logistics
DCGS	distributed common ground system
DET	Displaced Equipment Training
DHS	Department of Homeland Security
DIB	defense industrial base
DIRECT	Disaster Incident Response Communications Terminal

DMS	distributed mission sites
DMSMS	diminishing manufacturing sources and material shortages
DoD	Department of Defense
DODD	Department of Defense Directive
DoDI	Department of Defense Instruction
DOMOPS	Domestic Operations
DPAS	Defense Property Accountability System
DSCA	defense support of civil authorities
DV	distinguished visitor
EA	electronic attack
EAB	echelons above brigade
EMEDS	Expeditionary Medical Support
EMF	expeditionary medical facility
EO	electro-optical
EOD	explosive ordnance disposal
EOH	equipment on-hand
EPAWSS	Eagle Passive Active Warning Survivability System
ETR	Equipment Transparency Report
EUL	economic useful life
FAA	Federal Aviation Administration
FATS	Firearms Training Simulator
FEMA	Federal Emergency Management Agency
FIAR	Financial Improvement and Audit Readiness
FLSW	Fleet Logistics Support Wing
FM	frequency modulation
FMTV	Family of Medium Tactical Vehicles
FOC	full operational capability
FoV	family of vehicles
FPL	Force Protection, Large
FTU	formal training unit
FUA	Fixed Wing Utility Aircraft
FY	fiscal year
FYDP	Future Years Defense Plan
G/ATOR	Ground/Air Task Oriented Radar
GA	Guardian Angel
GBSAA	Ground-based Sense and Avoid
GCS	ground control station
GCSS-A	Global Combat Support System–Army
GCSS-MC	Global Combat Support System–Marine Corps
GFM	Global Force Management
GFMAP	Global Force Management Allocation Plan
GOTS	government off–the-shelf
GPS	Global Positioning System



HD	homeland defense
HEA	Heavy Equipment Airdrop
HEMTT	heavy expanded mobility tactical truck
HH	Hospital Helicopter
HIPPO	Load Handling System Compatible Water Tank Rack
HMEE	High Mobility Engineer Excavator
HMIT	helmet-mounted integrated targeting
HMMWV	high mobility multipurpose wheeled vehicle
HQDA	Headquarters, Department of the Army
HRF	Homeland Response Force
HSC	helicopter sea combat squadron (Navy)
HSM	helicopter maritime strike squadron
HTV	Heavy Tactical Vehicle
HYEX	Hydraulic Excavators
IBCT	Infantry Brigade Combat Team
IEW	intelligence and electronic warfare
IOC	initial operational capability
IP	Internet Protocol
IR	infrared
IRST	Infrared Search and Track
ISO	International Organization for Standardization
ISR	intelligence, surveillance, and reconnaissance
ITAS	Improved Target Acquisition System
IUID	Item Unique Identification
JAB	Joint Assault Bridge
JB	Joint Base
JBC-P	Joint Battle Command-Platform
JCR	Joint Capabilities Release
JHMCS	joint helmet-mounted cueing system
JISCC	Joint Incident Site Communications Capability
JLTV	Joint Light Tactical Vehicle
JRB	Joint Reserve Base
JRIC	Joint Reserve Intelligence Center
JSTARS	Joint Surveillance Target Attack Radar System
JTRS	Joint Tactical Radio System
kHz	kilohertz
kW	kilowatt
LAIRCM	Large Aircraft Infrared Countermeasures
LAV	light armored vehicle
LCS	littoral combat ship
LEEK	Law Enforcement Ensemble Kit
LHS	Load Handling System
LOS	line-of-sight

LSRS	littoral surveillance radar system
LTV	Light Tactical Vehicle
LVSR	Logistics Vehicle System Replacement
MAF	mobility air forces
MASS	Modular Aerial Spray System (Air Force)
MAW	Marine Aircraft Wing
MCS	Maneuver Control System
MDS	mission design series
MECP	Mobile Entry Control Point
MEDEVAC	medical evacuation
MEOH	Modernized Equipment On-hand (MEOH) (Army)
MFS-TRM	Modular Fuel System-Tank Rack Module
MH	multimission helicopter
MIDS	Multi-functional Information Distribution System
MIO	maritime interdiction operations
MIRCS	Mobile Integrated Remains Collection System
MISO	military information support operations
MMCT	Multi-Mission Crew Trainers
MMEWR	Minimum Mission Essential Wartime Requirement
MPRA	maritime patrol and reconnaissance aircraft
MPRF	Maritime Patrol and Reconnaissance Force
MRAP	Mine Resistant Ambush Protected
MSC	Military Sealift Command
MTOE	modified table of organization and equipment
MTRRS	Mobile Tactical Retail Refueling System
MTV	Medium Tactical Vehicle
MTVR	Medium Tactical Vehicle Replacement
NAS	naval air station
NAVAIR	Naval Air Systems Command
NAVELSG	Navy Expeditionary Logistics Support Group
NBC	nuclear, biological, and chemical
NBCRV	NBC Reconnaissance Vehicle
NCF	naval construction force
NCFA	National Commission on the Future of the Army
NCHB	Navy cargo handling battalion
NCR	naval construction regiment
NDAA	National Defense Authorization Act
NEIC	Navy Expeditionary Intelligence Command
NELR	Navy expeditionary logistics regiment
NET	New Equipment Training
NG	National Guard
NG CIMS	National Guard CRE Information Management System
NGB	National Guard Bureau
NGREA	National Guard and Reserve Equipment Account
NGRER	National Guard and Reserve Equipment Report

NMCB	naval mobile construction battalion
NST	Network Operations Support Team
NSW	naval special warfare
NSWG	naval special warfare group
NUFEA	Navy-unique fleet-essential airlift
O&M	Operation and Maintenance
OA	Open Architecture
OASD(R)	Office of the Assistant Secretary of Defense for Readiness
OASD(R),RP&R	OADR(R), Readiness Programming and Resources
OCO	overseas contingency operations
OM	Operations Module (Air Force)
OPTEMPO	operating tempo
OSD	Office of the Secretary of Defense
OSRVT	One System Remote Video Terminal
P-1	Service Procurement Programs
P-1R	Service Procurement Programs - Reserve Components
PIM	Paladin Integrated Management
PIRL	Prioritized Integrated Requirements List
PLS	palletized load system
PPBE	Planning, Programming, Budgeting, and Execution
PPP	public-private partnerships
Prime BEEF	Prime Base Engineer Emergency Force
PRP	Personnel Retrieval and Processing
PSU	port security unit
PWCS	ports, waterways, and coastal security
RB-S	Response Boat-Small
RC	Reserve Component
RED HORSE	Rapid Engineer Deployable Heavy Operational Repair Squadron Engineer
RERP	reliability enhancement and re-engining program
RPA	remotely piloted aircraft
RSS	Relocatable Simulator Shelter (Air Force)
RTIC	Real Time Information in the Cockpit
RWR	radar warning receiver
RWST	Reconfigurable Weapons System Trainer
S2E2	Survivable/Endurable Evolution
SABIR	Special Airborne Mission Installation and Response
SATCOM	satellite communications
SBIRS	Space-Based Infrared System
SE	support equipment
SEAL	sea-air-land

SELRES	Selected Reserve
SERE	survival, evasion, resistance, and escape
SF	security forces
SHORAD	Short Range Air Defense
SLEP	service life extension program
SLOS	secure line-of-sight
SMP	Strategic Master Plan (Air Force)
SMTC	Special Missions Training Center
SOF	special operations forces
SOW	special operations wing
SPAWAR	Space and Naval Warfare Systems Command
SPCS	space control squadron
SPPAD	Single Pass Precision Airdrop
SRM	Sustainable Readiness Model
SRP	SPAWAR Reserve Program (SRP)
STANO	Surveillance, Target Acquisition, and Night Observation
STUAS	Small Tactical Unmanned Aircraft System
SURGEMAIN	Naval Sea Systems Command - Surge Maintenance
T/A	Training Allowance (Marine Corps)
T/E	table of equipment
TACP	tactical air control party
TCAS	Traffic Alert and Collision Avoidance System
TDA	table of distribution and allowances (Army)
TF	Total Force
TF-C	Total Force Continuum
TOA	table of allowance (Navy)
TPSB	transportable port security boat
TSU	tactical support unit
TSW	Tactical Support Wing
TTP	tactics, techniques, and procedures
TWV	tactical wheeled vehicle
U.S.	United States
U.S.C.	United States Code
UAS	unmanned aircraft system
UDLM	unscheduled depot level maintenance
UDP	unit deployment program
UHF	ultrahigh frequency
UPL	Unfunded Priority List
USAF	United States Air Force
USAR	United States Army Reserve
USCG	United States Coast Guard
USCGR	United States Coast Guard Reserve
USMCR	United States Marine Corps Reserve
USNORTHCOM	United States Northern Command
USNR	United States Navy Reserve

USSOCOM	United States Special Operations Command
USTRANSCOM	United States Transportation Command
VAQ	tactical electronic warfare squadron (Navy)
VFA	strike fighter squadron (Navy)
VFC	fighter squadron composite (Navy)
VHF	very high frequency
VITE	Virtual Interconnected Training Environment
VP	patrol squadron (Navy)
VR	Fleet Logistics Support Squadron (Navy)
WIN-T	Warfighter Information Network-Tactical
WMD	weapons of mass destruction
WMD-CST	Weapons of Mass Destruction - Civil Support Team
WR-ALC	Warner Robins Air Logistics Center



Office of the Under Secretary of Defense  
(Personnel and Readiness)  
4000 Defense Pentagon  
Washington, DC 20301-4000