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HOUSE ARMED SERVICES COMMITTEE
SUBCOMMITTEE ON SEAPOWER AND PROJECTION FORCES
UNITED STATES HOUSE OF REPRESENTATIVES

PRESENTATION TO THE
HOUSE ARMED SERVICES COMMITTEE
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UNITED STATES HOUSE OF REPRESENTATIVES

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SUBJECT: Air Force, Force Structure and Modernization Programs

STATEMENT OF:

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(Acquisition, Technology & Logistics)

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Deputy Chief of Staff
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INTRODUCTION

Chairman Kelly, Ranking Member Courtney, and distinguished members of the subcommittee, thank you for having us here today to provide testimony on The Department of the Air Force's Fiscal Year 2024 (FY24) President's Budget (PB) request for projection forces aviation programs and capabilities.

The United States Air Force is critical to our national defense. Our capabilities underwrite the capabilities of the entire of the joint force, and we are uniquely suited to provide this cornerstone of the Nation's defense. This is particularly true of the long range strike and power projection capabilities that are the purview of this subcommittee and that we will discuss today.

The Department of the Air Force's FY24 PB request is guided by the seven operational imperatives we must meet to win in the future fight which Secretary Kendall and General Brown outlined last year. Our budget request reflects our commitment to developing a threat-informed, concept-driven future Air Force. We have made significant progress in identifying the capabilities the Air Force will need to develop and field to prevail against our adversaries.

The Air Force is grateful for congressional support in FY23, which allowed us to continue our pursuit of the critical warfighting capabilities needed to deter our adversaries and prevail in combat. As we continue to modernize or recapitalize our older fighter, tanker, cargo, and command and control aircraft, we are eager for continued collaboration with Congress, industry, and the communities that support our Air Bases to ensure our Nation's security.

CURRENT CAPACITY AND CAPABILITY

In line with the 2022 National Defense Strategy (NDS) guidance on future force design, the Air Force seeks to invest in technologies and field systems that are both lethal and survivable against tomorrow's threats. Our greatest weapon system is the more than 333,000 Airmen and Guardians who proudly wear our uniforms. A critical need in transitioning to the high-end fight is assigning experienced pilots, maintainers, munitions specialists and support personnel to receive and operate the new platforms as they arrive at our bases. Ultimately, this means transitioning away from many legacy capabilities to free up manpower and resources to modernize and field more capable systems. We must modernize to address the emerging threat, which requires pivoting resources from our legacy platforms and weapons systems that are

decreasing in relevance. If deterrence fails, our Airmen must have the training, tools, platforms, and operating systems required to win.

Bomber Force Structure

Our budget request supports the NDS call for continued modernization of the nuclear triad, to ensure a safe, secure, and effective nuclear deterrent to backstop our integrated deterrence approach. Air Force bombers anchor the air leg of the Nation's Nuclear Triad. They are also the essential element of the nation's capability for conventional long range strike. As a unique national security capability, the B-21 represents the future of this bomber force along both dimensions. As modernization continues, the Air Force will gradually transition the current three-bomber fleet to a two-bomber fleet of next-generation B-21s and modernized B-52s to provide nuclear and conventional global strike options for decades to come.

B-21

The B-21 Raider will form the backbone of our future bomber force and is the centerpiece of the Secretary of the Air Force's sixth Operational Imperative. The B-21 underscores our national security as the most flexible leg of the Nuclear Triad and supports Combatant Commanders across the range of military objectives as both a nuclear and conventional bomber. The FY24 PB request includes \$2.985 billion in Research, Development, Test & Evaluation (RDT&E) funding that continues to fund Engineering and Manufacturing Development. Additionally, the FY24 PB request includes modernization activities focused on nuclear certification, Long Range Standoff (LRSO) weapon integration and other activities. The FY24 PB request also includes \$2.332 billion in procurement funding to continue support to the program's transition toward low rate initial production. All EMD test aircraft are in various stages of assembly on the production line, which uses the same tooling processes and technicians who will build the production aircraft. The first B-21, unveiled in December 2022, was successfully powered-on and initial system tests of the aircraft are being conducted in preparation for first flight. The Air Force, in partnership with industry, has invested heavily in software integration labs, a flying test bed, digital tools and other risk reduction efforts to shift discovery early-on in the program and will accelerate issue resolution as the program enters the flight test phase. First flight will be informed by events and data, and we anticipate it will occur in 2023.

In parallel, beddown preparations at Ellsworth Air Force Base (AFB), South Dakota, remain on-track. The FY24 PB requests \$395 million to support one follow-on increment and two new military construction projects at Ellsworth AFB, and initiate planning and design for MILCON projects at Dyess AFB, Texas and Whiteman AFB, Missouri in support of beddown activities. The first B-21s are projected to arrive at Ellsworth AFB in the mid-2020s with base infrastructure ready to support. A second Environmental Impact Study continues with an estimated completion in FY24 to assess the final two basing locations.

The Air Force is committed and on track with respect to its key performance parameter of building B-21s with an average procurement unit cost of no more than \$550 million (Base Year 2010) / \$692 million (Base Year 2022), assuming a minimum fleet of 100 aircraft.

B-52

While the last B-52 Stratofortress entered service in the Air Force in 1962, we expect to continue operating the B-52 beyond 2050. We will continue to invest in modernization programs to keep the platform operationally relevant. Major modernization efforts include the Commercial Engine Replacement Program (CERP), the Radar Modernization Program (RMP), integration of LRSO nuclear air-launched cruise missile, and installation of Advanced Extremely High Frequency (AEHF) secured satellite communication capabilities.

The Air Force's number one priority for the B-52 is to ensure platform viability through 2050 and the CERP enables us to achieve this goal. CERP will replace legacy engines (TF33-PW-103) with new military-derivative commercial Rolls Royce F-130 engines. It is important to note that CERP is more complex than just a standard commercial engine refit. CERP includes new engines, flight systems, and cockpit throttles and displays. In September 2023, the CERP program will seek a Milestone B decision, which will authorize the program to enter the Engineering and Manufacturing Development phase and set the acquisition program baseline.

The RMP is also necessary to ensure viability through 2050 and modernize the current Strategic Radar (AN/APQ-166), which is based on 1960s technology modified in the 1980s. In 2024, the RMP will began aircraft modifications to support development testing and a Milestone C decision. Overall, the RMP program will upgrade all 76 B-52 aircraft with new radar systems to perform mission-essential navigation and weather avoidance functions.

Finally, integration of the LRSO weapon and AEHF terminals will bolster the B-52's role in the airborne leg of the Nuclear Triad. AEHF integration is on-track for an early FY24

Milestone B decision, which will establish the program's baseline supporting secure nuclear communications on the B-52 platform.

B-1

The FY24 PB request focuses resources on sustaining and modernizing the remaining combat-coded B-1s, after retirement of 17 B-1s as authorized in FY21. We will ensure the B-1s remain lethal and viable until B-21s are operational in sufficient numbers.

The B-1 is the Air Force's threshold platform for the Long Range Anti-Ship Missile (LRASM). Integration of this weapon, coupled with the B-1's long range, high speed, and large payload capacity, postures the B-1 for an important role in any conflict in the Indo-Pacific region.

Lastly, the B-1 will serve as a test platform for hypersonic weapons through additional congressional funding in FY22 and FY23.

B-2

In FY24, the Air Force will continue work to ensure the B-2 remains effective until the B-21 is operational. The Air Force has de-scoped the Defensive Management System modernization program because delays in the effort would have limited the operational utility of the system by the time it would have fielded. Instead, we are replacing the B-2's unsustainable cathode ray tube displays with modern sustainable displays as part of the B-2 Displays Modernization program.

In FY24, we are continuing B-2 modernization programs including Adaptive Communication Suite upgrades, enhancement of the Identification Friend or Foe (IFF) system, integration of hardware upgrades for employment of the B61-12 nuclear weapon, software upgrades to allow the B-2 to carry the extended range variant of the Joint Air-to-Surface Standoff Missile (JASSM-ER), and the Radar Aided Targeting System (RATS) software upgrade to improve the navigational handoff to the B61-12 nuclear weapon in a GPS-degraded environment. Finally, the B-2 will continue sustainment efforts for the Low Observable Signature and Supportability Modification effort to improve aircraft maintainability and availability and ensure the aircrew and maintenance training systems remain aligned with the aircraft.

Hypersonic Weapon Integration

Hypersonics are being designed to rapidly overcome the tyranny of distance in the Pacific and enable the U.S. to hold high value, time-sensitive targets at risk in contested environments from standoff distances within the region. When integrated with the broader munitions portfolio, their cost and complexity make hypersonic weapons a high-end, low volume capability, which, in concert with a wider weapon force mixture, are key to providing a war-winning force.

HACM

The FY24 PB request of \$382 million for the Hypersonic Attack Cruise Missile (HACM) development allows the Air Force to mature HACM to critical design, continue model-based engineering activities, and mature the digital ecosystem to complete critical design analysis. It also allows for design verification testing, execution of initial qualification testing, procurement and building of initial flight test hardware and aircraft integration assets, and maturation of Weapon Open Systems Architecture (WOSA) compliance evaluations. All of this is in preparation for flight test in FY25, which enables production article procurement by FY27.

ARRW (AGM-183A)

The FY24 PB requests \$150.3 million of RDT&E funding to complete the Air-launched Rapid Response Weapon (ARRW) AGM-183A rapid prototyping program. While the Air Force does not currently intend to pursue follow-on procurement of ARRW once the prototyping program concludes, the All-Up Round (AUR) test flights will garner the learning and test data that will help inform future hypersonic programs. and potential approaches to leave behind capability.

Tanker Fleet

Near-peer competitors have made significant advancements that threaten today's tanker fleet and potentially forces them to operate farther away from their area of responsibility. The stacked demand of global operations requires a set number of air refueling tankers with specific connectivity, survivability, and agility capabilities, generating at mission capable rates to meet timelines and win the fight. The FY24 PB request modifies the Air Force's tanker recapitalization approach from the three-phase approach envisioned in the early 2000s (i.e., KC-X, which later became KC-46A, KC-Y, and KC-Z) to a more agile, threat-informed approach prioritizing and accelerating the right capabilities to deliver fuel to the fight.

Accelerating to Next Generation Air-refueling System (NGAS)

The Air Force is establishing and accelerating the Next Generation Air-refueling System (NGAS) to meet the future needs of the joint force and continue uninterrupted tanker recapitalization during the gap period between the end of the KC-46A production contract and delivery of the first NGAS aircraft.

NGAS will be an accelerated, advanced air refueling system that meets the future needs of the joint force. It will deploy advanced technologies and permit air refueling in the anticipated future contested battlespace. We are considering clean sheet, purpose-built designs that address projected future threats and delivers upgraded capabilities in multiple tankers, delivered in increments. The program is being designed to leverage continuous competition.

The FY24 PB requests \$7.9 million for an NGAS Analysis of Alternatives (AoA), led by Air Mobility Command, which will shape requirements and determine the technology development timeline. This analysis will be informed by a wide array of industry capability providers. The results of the NGAS AoA may indicate a need for more than one type of aerial refueling platform, matching capabilities to scenarios and using a family of systems approach, which allows us to remain flexible and responsive to the ever-changing threat. We plan to build substantial vendor pools to assist us in developing a future aerial refueling family of systems leveraging competition throughout the effort.

Delivery of the first NGAS increment is expected in the mid-to-late 2030s. That will leave a gap period between the delivery of the final KC-46A under the current production contract and delivery of the first NGAS aircraft. During this gap period, we must continue to modernize our tanker fleet through continued recapitalization with a limited number of air refuelable, commercial derivative, limited development tankers. The tankers procured during this gap period will have capabilities similar to the KC-46A with Pegasus Advanced Communications Suite (PACS) also referred to as Block 1, plus potentially a digital backbone capable of Advanced Battle Management System (ABMS)/Joint All-Domain Command and Control (JADC2) integration, with minimal connectivity, survivability, and agility capabilities.

Continuous tanker recapitalization until NGAS delivers is critical to the warfighter because the KC-135 has inherent operational limitations. It is less survivable because it lacks the connectivity capability of the KC-46A. Further, it is not air refuelable and can only refuel either boom or drogue operations on a mission, lacking the flexibility of a KC-46A. It is not cost

effective to add these capabilities to the aging KC-135 fleet in order to raise the mission capable rates required to compete in a contested environment. Under the previous tanker recapitalization strategy, the Air Force planned on procuring a fleet of 140-160 commercial-derivative aircraft following the completion of the KC-46A program. With NGAS accelerating from the 2050s to the mid/late 2030s, the Air Force will likely procure fewer recapitalization tankers before NGAS. Our goal is to use tanker recapitalization prior to NGAS to replace 15 KC-135s per year as they retire with tankers that have similar capabilities to the KC-46A.

The FY24 PB requests \$4.97 billion over the Future Years Defense Program (FYDP) for tanker recapitalization. This includes \$526 million for RDT&E, \$136.2M for initial spares, and \$4.3 billion for procurement of aircraft beyond the current KC-46A production contract, with deliveries in the FY29 to FY30 timeframe. It is estimated we will have final Joint Requirements Oversight Council (JROC) validated requirements in 3QFY23. Upon final Business Case Analysis (BCA) completion based on the JROC validated requirements, the Air Force will determine its acquisition strategy for tanker recapitalization, which is likely later this year.

KC-46A

The KC-46A continues to deliver greater operational readiness, flexibility, connectivity, and survivability to the Global Reach mission. One hundred twenty-four production aircraft are on contract, with 15 more planned in FY24.

Since January 2019, 68 KC-46As have been delivered among five Main Operating Bases (MOBs): McConnell AFB, Kansas, Altus AFB, Oklahoma (Formal Training Unit), Pease Air National Guard Base, New Hampshire, Seymour Johnson AFB, North Carolina, and Joint Base McGuire-Dix-Lakehurst, New Jersey. Travis AFB, California, is expecting its first delivery in 2023.

The Air Force continues to work with Boeing to correct deficiencies with the Remote Vision System (RVS) and stiff air refueling boom. We are committed to ensuring these deficiencies are properly addressed without undue burden on taxpayers or warfighters. The RVS 2.0 solution and start of fleet retrofit are now scheduled in 1QFY26. The design solution to resolve the stiff boom deficiency is expected to complete in 2QFY25 with fielding start in mid-FY26.

Despite its current deficiencies, the KC-46A is safe to operate (adhering to flight manual cautions provided to our operators). Since Summer of 2021, through its Interim Capability

Release Process and associated rigorous assessment, AMC has made KC-46As available for training and worldwide operational employment and taskings to alleviate pressure on legacy tanker fleets and potentially allow legacy tanker retirements. AMC has cleared KC-46As to carry out operational refueling on nearly all required aircraft, except for the A-10 and any receiver aircraft without an approved technical compatibility assessment. Since January 2019, KC-46As have delivered over 95 million pounds of fuel through over 70,000 safe and effective aerial refueling contacts.

The FY24 PB requests \$124.7 million in RDT&E to support the ongoing KC-46A Engineering and Manufacturing Development and post-production modification efforts, to include the boom telescope actuator redesign that resolves the stiff boom deficiency, continued test and receiver aircraft certifications, development for training system required updates, and increased effort on the KC-46A Block 1 program. Additionally, the budget requests \$3.1 billion to fund procurement of 15 aircraft in Production Lot 10 and the associated support costs, along with increased depot standup and transition to organic sustainment efforts.

KC-10 and KC-135

The FY24 PB request will continue KC-135 modernization efforts to extend its capability into the 2040s, including the Block 45 program, the Rudder Position Indicator program, the Aero-I Satellite Communications (SATCOM) program, Real-Time Information in the Cockpit program, Mobile User Objective System program, Comm 2 Crypto and Data program, High Frequency Modernization program, and the Center Console Refresh program.

This is the final year of operations for the KC-10 with all aircraft planned to retire at the end of FY24. Service bulletin funding is necessary to ensure FAA certification.

The FY24 PB request supports the FY23 NDAA air refueling minimum inventory of 466 tanker aircraft. In FY24, the Air Force is retiring the remaining 24 KC-10s as they are replaced by the KC-46A. These retirements are critical in providing the flexibility to free up resources and manpower to modernize and fund the Air Force's future tanker fleet.

Executive Airlift

VC-25B

The VC-25B program will replace the U.S. Air Force Presidential VC-25A fleet, which faces capability gaps, rising maintenance costs, and parts obsolescence as it ages beyond 30 years. Modifications to the 747-8 aircraft began in February 2020 in San Antonio, Texas, and include an

electrical power upgrade, dual auxiliary power units that are usable in flight, a mission communication system, an executive interior, military avionics, a self-defense system, autonomous enplaning and deplaning, and autonomous baggage loading.

The FY24 PB requests \$490.7 million to continue Engineering and Manufacturing Development, aircraft modifications, developmental test and evaluation, and other product support activities.

C-40

The FY24 PB reflects \$8.9 million in procurement funding to address satellite communications system upgrades, cryptographic modernization, and low-cost modifications and service bulletins in order to provide secure and reliable government air transportation.

Strategic and Tactical Airlift

C-5

Current C-5 Super Galaxy investment programs focus on fleet obsolescence, maintainability, and safety of flight. The FY24 PB requests \$24.4 million in procurement funding, predominantly for communications, navigation, surveillance/air traffic management (CNS/ATM) and core mission computer/weather radar (CMC/WxR) system equipment. CNS/ATM upgrades include modifications to Automatic Dependent Surveillance-Broadcast (ADS-B) Out required for global airspace compliance. The CMC/WxR effort replaces an antiquated radar system and upgrades the core mission computer processor to meet the demands of future software modifications. Production funding also includes procurement of training systems.

Additionally, the FY24 PB requests \$26.5 million RDT&E funding to support replacement of the Multifunctional Controls and Displays (RMCD). This comprehensive sustainment modification mitigates the obsolescence of the current control and display units and increases capacity for future technology integration into the cockpit. There is an additional \$3.0 million to begin initial capability studies for a concept preliminarily termed the Next Generation Airlift (NGAL) that will determine requirements and technologies available to support a next generation airlift family of systems.

C-17

The C-17 is the only aircraft in the Air Force inventory that combines tactical capability with strategic range to operate from austere airfields. The fleet of 222 aircraft provides our nation

with unmatched flexibility to conduct theater and inter-theater direct delivery, airdrop, aeromedical, and special operations airlift missions. Agile and efficient software and hardware updates ensure timely readiness, safety, and capability improvements as this premier airlift platform contributes to our national security objectives.

The FY24 PB requests \$140.6 million in procurement funding to continue critical modifications to the C-17 fleet. The majority of this is allocated to procuring Beyond Line of Site (BLOS) communication equipment, but also includes a filter fire mitigation for the On-Board Inert Gas Generating System, Large Aircraft Infrared Countermeasures defensive systems, and Replacement Heads-Up Display (RHUD). The BLOS program integrates aircraft avionics as well as back-end mission communications to utilize both military and commercial satellite systems, extend communication ranges, and ensure aircraft complies with air space mandates. The RHUD modification effort addresses obsolescence of the current C-17 heads-up display and improves the system's availability, reliability, and maintainability. Production funding also includes procurement of training systems.

FY24 RDT&E funding will finish testing of the BLOS program and begin the Flight Deck Replacement program. The Flight Deck Replacement program will develop, integrate, and retrofit the C-17 cockpit to replace four obsolete parts and provide an open systems architecture that enables future modular "plug and play" expansion of capability.

C-130H/J Fleet

The C-130 fleet consists of C-130H and newer C-130J aircraft, as well as special mission aircraft (AC/LC/EC/MC/HC/WC-130s). C-130Hs and C-130Js are medium-size transport aircraft capable of completing a variety of tactical airlift operations across a broad range of missions. The fleet delivers air logistics support for all theater forces, including those involved in combat operations.

C-130H

The Air Force continues to modernize the C-130H fleet to ensure aircraft safety, airspace compliance, and aircraft systems modernization. Our C-130H Center Wing Box replacement program breathes new life into some of our hardest flown aircraft, enabling them to continue to safely operate well into the future. The C-130H Avionics Modernization Program (AMP) Increment 2 improves the C-130H fleet maintainability and reliability by providing a new digital avionics suite and mitigating obsolescence and diminishing manufacturing source challenges. In

addition, the Air Force plans to upgrade the C-130H fleets with a Mobile User Objective System. The FY24 PB requests \$5.4 million in RDT&E and \$71.9 million in procurement funding to support the C-130H fleet.

C-130J

The Air Force has partially recapitalized the C-130H fleet with C-130Js, which also support our Special Operations missions by providing Special Forces with extra weight carrying capacity, longer range, and better fuel efficiency. These special mission variants of the C-130J conduct weather reconnaissance (WC-130J), search and rescue (HC-130J), and special operations (MC-130J and AC-130J). The Air Force has multiple modification efforts for the C-130J, including Center Wing Box replacement, Large Aircraft Infrared Countermeasures, communications upgrades, and Block 8.1. The C-130J Block 8.1 modernization program, currently in production, delivers new communication and data link capabilities, a modern flight management system, and other key capabilities to the field. In addition, the Air Force plans to upgrade the C-130J fleets with a Mobile User Objective System and a Second-Generation Anti-Jam Tactical Ultra High Frequency Radio satellite communication system to ensure we maintain key communication links anywhere in the world.

The FY24 PB requests \$19.1 million for C-130J RDT&E and \$156.2 million for C-130J procurement and modification efforts. The FY24 PB also requests funding for HC/MC-130J RDT&E and HC/MC-130J procurement and modification efforts.

Connecting the Joint Force

The Air Force continues to work closely with the other services, the Joint Staff, and OSD to drive implementation of Joint All-Domain Command and Control (JADC2). The Department of the Air Force established a new PEO for Command, Control, Communications, and Battle Management (C3BM), which is leading the integration of command and control and battle management functions across the Department of the Air Force to ensure our planned capabilities deliver the C2 capabilities supporting the joint force. The cornerstone of this effort is the DAF BATTLE NETWORK, including the Advanced Battle Management System (ABMS), which creates decision advantage by delivering critical information and capabilities to warfighters and operators at multiple echelons.

Operationally optimized ABMS/JADC2 is one of the Secretary of the Air Force's operational imperatives and is foundational to many other operational imperatives. Within the

ABMS portfolio, DAF PEO C3BM is pursuing multiple interconnected investments: digital infrastructure, aerial networking, software and applications, and architecture and systems engineering focusing on closing the right kill chains and delivering near-term operational capability. The Architecture and Systems Engineering (ASE) team within DAF PEO C3BM drives mission integration to enable warfighter capabilities for resilient decision advantage. Its primary product is engineering data to drive decisions on effective and efficient integration of the DAF BATTLE NETWORK across the Joint Force. DAF PEO C3BM is working as the Integrating PEO to ensure Air Force and Space Force systems have seamless interoperability and compatibility to meet the JADC2 concept.

Driven by strategic requirements approved by the Chief of Staff of the United States Air Force and the Chief of Space Operations, DAF PEO C3BM has identified DAF BATTLE NETWORK core and connected programs across the acquisition community, while also continuing to execute the ABMS portfolio. The FY24 PB request of \$500.6M will enable ABMS to remain on track to deliver initial capabilities such as the Cloud-Based Command and Control (CBC2) tactical C2 software to multiple Air Defense Sectors, as well as multiple digital infrastructure efforts for software-defined wide area networking and deployable edge solutions for battle management teams at multiple echelons.

CONCLUSION

Thank you again for the opportunity to testify. We look forward to working with this subcommittee to ensure the Department of the Air Force maintains the necessary military advantage to secure our vital national interests and support our allies and partners in Fiscal Year 2024 and beyond.