DEPARTMENT OF THE AIR FORCE

PRESENTATION TO THE HOUSE
ARMED SERVICES COMMITTEE
SUBCOMMITTEE ON TACTICAL AIR AND LAND FORCES
U.S. HOUSE OF REPRESENTATIVES

SUBJECT: Fiscal Year 2019 Budget Request on Air Force Airborne Intelligence, Surveillance and Reconnaissance (ISR) Programs

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Lt Gen Harris and Ms. Thornton

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Airborne ISR Programs

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Chairman Turner, Ranking Member Tsongas, and distinguished members of the Tactical Air Land Forces Subcommittee, it is an honor to appear before you today to discuss the Air Force's Fiscal Year (FY) 2019 Budget Request for Airborne Intelligence, Surveillance and Reconnaissance (ISR) Programs. The programs you are inquiring about are of vital importance to supporting Combatant Commanders and warfighters across the globe, so we thank you for taking the time to discuss the Air Force's intent for these critical assets.

In the invitation to testify, the Tactical Air and Land Forces Subcommittee identified specific topics for discussion during the hearing, and it is the Air Force's hope our dialogue today will impart a greater understanding to all present as to the utility of the Airborne ISR portfolio and the rationale for the planned modernizations and updates the Service is seeking to conduct.

Way Ahead on Joint Surveillance Targeting and Attack Radar System (JSTARS) Recapitalization and the Advanced Battle Management System

As we prepare to deter or defeat potential adversaries as outlined in the National Defense Strategy, failure to prioritize investment in future technologies that allow us to operate in highly-contested environments is not an option. These highly contested scenarios present the lowest margin for error and the greatest risk to our national security. The recapitalization of the current JSTARS platform is not viable in future contested environments, putting the Battle Management Command and

Control and Ground Moving Target Indicator missions at risk in a peer engagement. In light of this the Air Force owes it to the joint force an alternative approach to fulfill the Combat Commander requirements for Ground Moving Target Indication and Battle Management Command and Control. To achieve this evolutionary shift, the Air Force is transitioning from a primarily aircraft centric to a net-centric approach using sensors across the battlespace linked by agile, resilient communications to provide the warfighter persistent capabilities across the full range of military options, uncontested and highly-contested, to meet the Nation's future needs. The key for future success is to establish a family of systems capable of integrating and fusing sensor information from all domains and bridging resilient communications across multiple pathways at all security levels.

The Air Force is pursuing a three-phased "incremental approach" to regain a strategic advantage and strengthen long-term lethality for the joint force. Increment 1 continues to employ the current E-8C JSTARS fleet in the manner in which it operates today, and begins the investments in agile communications and advanced sensors. This approach builds up resilience by incorporating technologies assessed at low technical risk. Increment 2 builds upon capability improvements by integrating advanced sensors and Open Mission System software into ground and air-based Battle Management Command and Control platforms. This increment also fully incorporates joint and coalition sensors, as well as fifth generation aircraft sensors, which provide the ability to sense targets in highly contested environments. Increment 3 realizes the full potential of the proposed incremental approach with full operational capability of the Advanced Battle Management System. This system leverages both Increment 1 and 2 enhancements as well as emerging technologies.

The Air Force envisions the Advanced Battle Management System as an open architecture system, capable of ingesting new sensors and leveraging communications capabilities as the science and technology communities deliver them. Ultimately, the Air Force anticipates a more robust, resilient, reliable, and survivable architecture than currently exists. This open architecture will provide the means to

integrate new technologies and create a more lethal force capable of operating in all environments. If we continue down last year's path, we will spend billions of dollars and end up with today's capability and capacity that will only be effective on small portions of the world.

Overview of High-Interest ISR Systems

Airborne Operations Center (AOC) 10.1

The AOC 10.1 program is a sustainment effort fielding hardware and software to replace end-of-life or end of support components. These upgrades are required to keep the AOCs interoperable, supportable, and cyber security compliant while the Air Force modernizes the AOC enterprise.

AOC 10.2 and AOC Pathfinder

In response to Combatant Commanders' needs for rapid development of new capabilities in the current fight and to outpace our near-peer competitors, the Air Force initiated the AOC Pathfinder effort in August 2017, and subsequently terminated the AOC 10.2 program in January 2018. AOC Pathfinder seeks to rapidly deliver a subset of the AOC 10.2 requirements using industry software development best practices. These best practices include using cloud-native computing technologies, lean agile software development methodologies, and an entrepreneurial management structure. If the AOC Pathfinder proves successful, which it is showing great progress to date, its development approach will become the model for continued AOC modernization. The legacy AOC 10.1 infrastructure would then sunset by the end of Fiscal Year 2020, three years earlier than originally planned under the AOC 10.2 acquisition program.

Air Force Distributed Common Ground System (DCGS)

Air Force DCGS is currently transitioning away from a proprietary, stove-piped, original equipment manufacturer controlled system to an open architecture framework. Using the open architecture DCGS agile framework, Air Force DCGS has ceased all original equipment manufacturer block releases with the goal of shifting the average time to field for new capability from seven years to

six months. The Air Force completed three open architecture pilots (Full Motion Video, High-Altitude Geospatial Intelligence, and Multi-Intelligence Correlation and Fusion) in 2017. After the associated Operational Utility Evaluations in the Spring and Summer of 2018, we will begin deploying capabilities to all twenty-seven worldwide, regionally aligned DCGS sites. Active duty, Air National Guard, and Reserve analysts will realize the operational benefits of improved workflows, best-of-breed tools, higher quality data, and faster turn-around time of requested system updates and modifications.

Open Skies Treaty Observation Aircraft

In the FY 2019 President's Budget, the Air Force is requesting $222M for the Open Skies program. This funding will allow the Air Force move forward to finalize the requirements for the recapitalization the fleet of two OC-135B aircraft and to address capability performance gaps limiting the ability of the legacy jets to complete their primary mission. This will enable full territorial access to the Russian Federation, while also generating improved mission success rates due to higher aircraft availability.

Modernizations and Upgrades for Fielded Airborne ISR Assets

Airborne Warning and Control System (AWACS)

In order to add capability to the AWACS Fleet, eight modification programs are targeted to provide capability improvements across all AWACS missions. These improvements will be implemented as aircraft cycle through Programmed Depot Maintenance and field modifications, completing in FY 2029. Cockpit improvements and the Block 40/45 program are on-going to ensure global access by revitalizing the mission systems necessary to improve the integration, quality, and timeliness of sensor data to support the warfighter. Additional capability improvements center around communications upgrades required to provide war-winning Battle Management Command and

Control. Upgrades include Link 16, Mobile User Objective System (MUOS), Second Generation Anti-jam Tactical UHF Radio for NATO (SATURN), and a fifth to fourth generation aircraft communication capability. These modifications will allow AWACS to remain a key contributor to the warfighter through its projected service life date of 2035.

E-8 JSTARS

The E-8C JSTARS fleet is in sustainment, but the Air Force is accomplishing a limited number of modernizations to ensure viability of the fleet. The current modernization efforts include Primary Mission Equipment Diminishing Manufacturing Sources, Combined Enterprise Regional Information Exchange System, Emergency Locator Transmitter and Common Data Link. The Air Force intends to fly a leaner E-8C JSTARS Legacy fleet over the next decade and has a divestiture/retirement schedule which will gradually reduce the JSTARS fleet size. The current plan is to divest three aircraft in FY 2019 and one aircraft in FY 2021. The remaining 12 aircraft are projected to fly until the mid-2020s. This gradual reduction of the JSTARS Legacy fleet will cause no reduction in current Battle Management Command and Control and Ground Moving Target Indicator capabilities.

MQ-9

The MQ-9 fleet continues to meet the demands of the combatant commanders with over 1.6 million flying hours accumulated and supporting 60 steady-state combat lines and nine Government owned contractor operated combat lines. The Capability Development Document for MQ-9 was approved by the Joint Requirement Oversight Council in January 2006 and since that time, significant enhancements have been made to the MQ-9 fleet. Upgrades include the Lynx Synthetic Aperture Radar, extended range, the multi-spectral sensor ball, and various reliability and maintenance improvements. The MQ-9 program continues to field advanced capabilities to the warfighter. The FY 2019 President's Budget requests funding to increase beyond line of sight capabilities, sensor multiplexing to enable simultaneous sensor missions, automatic take-off and landing capabilities,

increased test infrastructure and ground control station capability upgrades via the Block 15 to Block 30 conversions.

The ground control system upgrades allow for operation of the newest MQ-9 Block 5 aircraft in addition to increased radio capabilities and mitigation for diminishing manufacturing sources and material shortages. In FY 2018, the MQ-9 program initiated a new start effort to standardize the Squadron Operation Centers across the enterprise. The Squadron Operation Centers merge multiple ground control stations into a common operation picture allowing for greater command and control within the operational squadrons. These efforts will continue with the funding requested in FY 2019.

RC-135

The RC-135 is a fleet of heavily modified C-135 aircraft that provide intelligence and reconnaissance support, which enables decision advantages to national, joint and coalition leaders across the range of military operations. Seventeen RC-135V/W RIVET JOINT aircraft provide near real time on-scene signals intelligence collection, analysis and dissemination. Two RC-135U COMBAT SENT aircraft collect technical electronic reconnaissance data used by the intelligence and joint warfighting community to characterize next generation threats. Three RC-135S COBRA BALL aircraft collect optical and electronic data on ballistic targets, as directed by the Intelligence Community and the Chairman of the Joint Chiefs of Staff. The WC-135 CONSTANT PHOENIX is a fleet of two modified C-135 aircraft that provide atmospheric collection of particulate and gaseous effluents and debris supporting the Limited Nuclear Test Ban Treaty of 1963. All three variants of the RC-135 are currently deployed in support of the Combatant Commands in accordance with the Global Force Management Allocation Plan. Within 72 hours of being tasked, the WC-135 deploys to meet national collection requirements. All three variants of the RC-135 undergo extensive programmed depot maintenance that will enable these 50+ year airframes to continue operating through 2050. The fleet utilizes a spiral baseline upgrade process that allow the platforms to keep pace with adversary

threats and technological advancements. The FY19 President's Budget includes funding to convert 3 KC-135Rs to WC-135Rs to improve mission effectiveness and aircraft availability. These three aircraft will allow the retirement of the existing two WC-135s. Additionally, the cooperative RC-135 program with the Royal Air Force provided three aircraft under Foreign Military Sales (final aircraft delivered in 2017) expanding partner capacity and capability with our most valued international mission partner.

RQ-4

The Air Force is modernizing the RQ-4 Global Hawk to increase mission effectiveness and replace aging ground components. The Office of the Secretary of Defense approved the RQ-4 modernization approach in November 2015. Since then, the Air Force has initiated two modernization activities. The MS-177 sensor development and integration contract was awarded in November 2015 with an Initial Operational Capability scheduled for third quarter FY 2018 and Full Operational Capability scheduled for third quarter FY 2020. The MS-177 sensor will provide multi-spectral, long-range imaging capabilities on the RQ-4. The second modernization effort, the Ground Segment Modernization Program, award was initiated in July 2016. Ground Segment Modernization Program will replace outdated trailer-based Launch and Recovery Elements and Mission Control Elements with a modern building-based ground segment solution capable of supporting the RQ-4 mission and aircraft command and control requirements. Development and operational testing for this effort will be conducted in FY 2019 through FY 2020, with fielding beginning in FY 2021.

U-2

The U-2 is a high altitude, all-weather, day/night, self-defended, simultaneous multi-intelligence platform that provides near-real-time intelligence collection in contested and permissive environments. Programmed depot maintenance ensures every aircraft is rebuilt every seven years providing an average lifespan beyond 2055. The U-2 is continuously deployed in support of the

Combatant Commanders in accordance with the Global Force Management Allocation Plan providing intelligence to meet collection needs at strategic, operational, and tactical levels of conflict. Modernization and upgrade plan were provided in accordance with the Congressional reporting requirement stipulated in the FY 2018 National Defense Authorization Act. The "U-2 and RQ-4 Aircraft and Sensor Modernization and Sustainment Plan" submitted to the Congressional Defense Committees in February 2018. The report highlights modifications to include updating the navigation and avionics systems to achieve Open Mission Systems compliance; modernization of the advanced electronic warfare system to increase capability in the highly contested environment; upgraded deep-look synthetic aperture radar with multi-mission collection capabilities; on-board automatic target recognition and artificial intelligence to enable processing, exploitation, and dissemination without reach back communication; and the usage of emerging quick reaction capabilities. These modernization efforts will make use of the investment of other programs of record, promote sensor interoperability, ensure modularity with other platforms where applicable, and capitalize on the unique strengths of the platform. The U-2 is funded using a combination of base and overseas contingency funding with weapon system sustainment funded in accordance with the FY 2019 requirement.

Assessment of Airborne ISR Readiness

The Air Force understands the concerns the Committee has on the assessment of Airborne ISR Readiness. As a Service, we also place great importance on the readiness of our ISR Airborne platforms as we move forward to align with the National Defense Strategy. Per the request of the Committee, an assessment being conducted on the assessment of the weapon system sustainment and readiness. As soon as the assessment is completed, we will provide it to the Congressional Defense Committees.

Status of the Air Force's Remotely Piloted Aircraft "Get-Well" Plan

The "Get-Well" Plan goals of increasing MQ-9 formal training unit manning to 100% and increasing overall manning to a 10:1 crew-to-Combat Line ratio were achieved by the first quarter of 2017. Culture and Process Improvement Program goals of generate in-garrison combat-to-dwell, establish new MQ-9 Wing, expand MQ-9 leadership opportunities and expand assignment options remain ongoing. To achieve Culture and Process Improvement Program goals, MQ-9 formal training unit production will be expanding in FY 2020 via the creation of two new active duty formal training unit squadrons at Air National Guard bases. In addition, the first of two new bases housing a new MQ-9 Wing will stand up this year. The new Wing and active/associate squadrons will achieve increasing leadership opportunities at the squadron, group and wing levels as well as expand assignment options for remotely piloted aircraft airman. The Air Force is progressing towards its goal of achieving a 2:1 combat-to-dwell ratio by FY 2024. Air Combat Command, as the lead Command, ensures MQ-9 training resources are proportionally fielded across Active Duty, Air National Guard, and Air Force Reserve components.

Conclusion

The Air Force's Airborne ISR portfolio is of paramount importance for the execution of operations around the world, and the funding the Service requested in the FY 2019 President's Budget ensures our ISR capabilities are viable and ahead of adversarial threats and enhancements. The Air Force thanks the Committee for the continued advocacy of these vital capabilities and requests you support our FY 2019 funding request so we can continue to put cutting edge capability in the hands of our warfighters.