RECORD VERSION

STATEMENT BY

MR. BARRY J. PIKE

U.S. ARMY
PROGRAM EXECUTIVE OFFICER,
MISSILES AND SPACE

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Chairman Rogers, Ranking Member Cooper, and distinguished Members of this Subcommittee, thank you for the opportunity to testify before you today. Thank you for your continued support of our great Soldiers, civilians, and their families.

It is my privilege to provide my assessment of how the President's Fiscal Year 2017 (FY17) budget request for the Army Program Executive Office (PEO) for Missiles and Space programs ensures a robust and modernized integrated air and missile defense capability against emerging threats.

As the PEO, my responsibility is to lead the materiel development, production, fielding, and sustainment of missile and space systems for U.S. Army, Joint, and Coalition Warfighters that provide a decisive battlefield advantage. This includes centralized management for Army Air and Missile Defense (AMD) programs as well as other Army and Joint missile programs and designated space programs. We are responsible for the full life-cycle management of assigned systems and provide worldwide support of fielded weapon systems. We also serve as a key link between the Warfighter and the technology base.

To meet the Army's AMD materiel development needs, I lead a diverse, talented, and dedicated workforce committed to our Warfighters and our taxpayers. Our ability to meet the Army's AMD requirements and the needs of the Warfighter is only possible with the continued support of your Committee and other Congressional Committees.

To meet the Army's AMD requirements within our portfolio, we focus on the following four priorities: 1) support combat operations and homeland defense; 2) develop, deliver, and sustain best value products and services to the Army, Joint, and International Partners; 3) align and leverage investments in capabilities and technology development; and 4) continue to improve efficiency, effectiveness, and agility.

Air and Missile Defense is an inherently Joint and increasingly International Coalition mission. The Army AMD environment continues to evolve in terms of threats, operational demands, strategic guidance, and fiscal realities. Major changes include: the appearance of complex integrated air, missile, cyber, and electronic warfare attacks used in a synchronized manner; shifting geographical focus; budget uncertainty; major operations by state and non-state actors; rapid advancements in adversary air and missile technologies; anti-access/area denial challenges; and high operational demands

on the Army AMD force. These changes have increased the Army's emphasis in developing and fielding new AMD capabilities. Within the Army, there is an increased focus, as well as increased funding, to address the emerging threats. The risk that these threats pose and the urgency to field new capabilities to address them are clearly understood across the Department of Defense.

Although the environment continues to rapidly change, the Army's 2015 Waypoint #1 assessment of the 2012 AMD Strategy confirmed that the Army is investing in the right efforts and that the strategy remains valid and on track. Consistent with the Army's AMD Strategy, the FY17 President's Budget requests resources for PEO Missiles and Space to continue to develop, produce, modernize, and enhance capabilities for Army AMD forces that are integrated with Joint and Coalition partners, operate at all levels of war, and are effective across multiple domains to defeat our adversaries.

The FY17 budget request for AMD programs managed by PEO Missiles and Space is $1.8 billion. This includes funding requests for the Army Integrated Air and Missile Defense (IAMD) Battle Command System (IBCS); PATRIOT Missiles and Ground System modernization and modification; the Lower Tier Air and Missile Defense Sensor (LTAMDS); the Indirect Fire Protection Capability (IFPC); Sentinel Radar improvements; Counter-Rocket, Artillery, and Mortar capability; and the Joint Tactical Ground Station (JTAGS).

By the end of 2016, we will complete the Engineering and Manufacturing Development (EMD) phase of IBCS including completion of the Limited User Test (LUT); field 92 PAC-3 Missile Segment Enhancement (MSE) missiles in addition to the over 1,400 PAC-3 missiles already fielded; and complete the IFPC Engineering Demonstration flight tests and Technology Maturation and Risk Reduction (TMRR) phase. We will continue to deliver PATRIOT Ground System improvements including Post Deployment Build software improvements (PDB-8), Radar Digital Processor (RDP), Modern Man Station (MMS), and additional PAC-3 Enhanced Launcher Electronic Systems (ELES) all of which enable our ability to maximize utilization of the latest PAC-3 MSE missile capabilities. Across all Army AMD programs, we are improving our resilience and ability to mitigate cyber and electronic warfare attacks.

The FY17 Budget Request continues IBCS development and begins Low Rate Initial Production (LRIP) toward an Initial Operational Capability in 2018. The IBCS remains the Army's number one priority AMD developmental effort and serves as the foundation for Army AMD modernization. The program will field an Integrated Fire Control Network that will integrate Army AMD sensors and shooters through a common mission command system. When fully fielded, IBCS will enable a tailorable, flexible, task-organized Army AMD force, breaking the current system-centric paradigm. The IBCS will also facilitate affordable, competitive modernization at the AMD component level. The IBCS common mission command system will be fielded to all echelons of Army AMD battlefield forces to defend against cruise missiles; manned and unmanned aircraft; air-to-ground missiles; tactical ballistic missiles; and Rockets, Artillery, and Mortars.

In early FY16, we successfully completed New Equipment Training, Collective Training, and Customer Test as well as search/track developmental tests in preparation for the IBCS Limited User Test that began in March and is scheduled to be completed in early May. In 2015, we successfully executed two IBCS developmental flight tests. In May 2015, IBCS was used as the mission command and integrated fire control system to successfully intercept a surrogate Tactical Ballistic Missile target utilizing a PATRIOT radar and interceptor. In November 2015, IBCS was used as the mission command and integrated fire control system to successfully intercept a surrogate Cruise Missile target utilizing Sentinel Radars and a PATRIOT interceptor. This was a first of its kind engagement with a PATRIOT missile intercepting an air target using composite track data from Sentinel radars. Ground test efforts were initiated in 2015 and are continuing in 2016 to demonstrate IBCS interoperability with the Ballistic Missile Defense System via IBCS and the Missile Defense Agency's Command, Control, Battle Management, and Communications (C2BMC) system. This capability for IBCS/C2BMC interoperability is scheduled to be available for fielding beginning in 2020. Additionally, integrated planning between the Terminal High Altitude Area Defense (THAAD) System planner and the IBCS integrated defense designer is anticipated in 2019.

Today, the Army's PATRIOT force continues to be the cornerstone of AMD protection for our deployed forces, friends, and allies. As such, PATRIOT is in high

demand with more than half of the force deployed, forward stationed, or on prepare to deploy orders. To relieve stress on the PATRIOT force, the Army initiated three efforts this year. Beginning next fiscal year, the Army will field five Dismounted PATRIOT Information Coordination Centrals (DPICCs) among three Army Air and Missile Defense Commands. The DPICC capability provides the ability to deploy a PATRIOT firing battery without a full battalion-level command and control element which provides the AMD force with greater strategic flexibility until IBCS is fully fielded in 2028. The second initiative is the acceleration of the planned modernization of the 35th Air Defense Artillery Brigade on the Korean peninsula, which reduces deployment of a PATRIOT Battalion from the U.S. The third initiative is the establishment of a dedicated Test Detachment in the first quarter of FY18 that will support AMD modernization in the high operational demand environment and return a PATRIOT Battalion to the operational force pool.

The Army initiated a modernization strategy several years ago that will completely replace PATRIOT's command and control hardware with IBCS and allow future competitive development of net-centric radar, launcher, and interceptor components. The result will be increased reliability, reduced operations and sustainment costs, and viability well into the future. Each element of the strategy is critical to our Nation's ability to provide our Combatant Commanders with more flexibility, innovation, and capability in the face of an ever-changing threat. Consistent with the strategy, the FY17 budget request supports two critical lines of effort for PATRIOT: near-term modification of existing components; and long-term competitive modernization.

The need for near-term PATRIOT ground system modifications before the Department of Defense makes a decision on a Lower Tier Air and Missile Defense Sensor is based upon the need to counter current threats that have created critical performance gaps in today’s PATRIOT system. These performance gaps are exacerbated without funding for near-term PATRIOT modification efforts since an Analysis of Alternatives (AoA)-informed materiel solution is not expected to begin fielding until the late 2020s. Until the new or improved battlefield sensor is fielded in sufficient quantities, the Army must continue to incrementally modernize the existing PATRIOT capability to keep pace with the evolving threat. Stable, sufficient funding is

critical to enable the Army to modify the existing system to counter evolving threats in the near term while long term improvements are developed and tested. The Lower Tier Air and Missile Defense Sensor AoA is expected to be completed in April 2016 and will inform a program decision later this year.

A number of significant PATRIOT capability enhancements have been accomplished over the past year. We completed the planned fielding of Post Deployment Build-7 (PDB-7) software and the Modern Adjunct Processor to all fifteen PATRIOT battalions. Last October, we achieved the PAC-3 MSE First Unit Equipped two months ahead of schedule with initial fielding to 3-2 Air Defense Artillery. We are on track to achieve PAC-3 MSE Initial Operational Capability in First Quarter FY17. To make maximum use of the PAC-3 MSE missile and the radar upgrades, the Army is testing the next version of the PATRIOT ground system software, PDB-8. In developmental testing last November, both tactical ballistic missiles and air breathing threats were simultaneously engaged. More recently, on March 17, 2016, we successfully intercepted a tactical ballistic missile with a PAC-3 MSE in a ripple fire engagement with a PATRIOT GEM-T missile using PDB-8. Successful testing and fielding of this software will support the Full Rate Production decision for PAC-3 MSE.

Integration of Terminal High Altitude Area Defense (THAAD) and PATRIOT capabilities (such as Tactical Ballistic Missile engagement coordination) began in the 1990s. The concept of integration was initially implemented and fielded in PATRIOT Post Deployment Build – 5 (PDB-5) software in 1999. Since then, PATRIOT and THAAD have participated in joint flight testing and continue to look for opportunities to combine flight tests in the future. The Army and Missile Defense Agency (MDA) are coordinating for PATRIOT participation in the FY17 THAAD Flight Test-15/18 scheduled for Third Quarter FY17 (3QFY17). There are currently no identified barriers to PATRIOT participation in this flight test. Additionally, the PATRIOT P8-OT2&3 flight test scheduled for 3QFY17 will provide an opportunity for THAAD to participate in a PATRIOT operational flight test to demonstrate interoperability. Currently, there are no identified barriers to THAAD participation in this test. The Army and MDA are in the early planning stages for PATRIOT to participate in MDA's Operational Flight Test-03 in 2018. Finally, IBCS and PATRIOT routinely participate in the MDA-sponsored ground

test program to demonstrate interoperability among ballistic missile defense components.

The FY17 President's Budget requests funds to conduct IFPC Increment 2-Intercept (Inc 2-I) Engineering and Manufacturing Development. The IFPC Inc 2-I program is developing a mobile, ground-based weapon system designed to provide 360-degree protection capability to defeat Cruise Missile; Unmanned Aircraft System (UAS); and Rocket, Artillery, and Mortar threats. The IFPC Inc 2-I program will provide the first of three planned block capabilities (Cruise Missile Defense and Counter-UAS) in FY20. In 2016, we will complete the Technology Maturation and Risk Reduction phase of the program including completion of the Engineering Demonstration flight testing of multiple missiles from the Multi-Mission Launcher using IBCS as the common mission command/integrated fire control network capability and multiple sensors.

The Sentinel radar is employed in an air defense role against cruise missile, UAS, and fixed/rotary wing aircraft threats and in a force protection role in support of the Counter-Rocket, Artillery, and Mortar (RAM) capability. It is a highly mobile radar system that provides 360 degree coverage at shorter ranges and lower altitudes than the PATRIOT radar. The FY17 President's Budget requests funding for continued development and modification of the Sentinel radars to address capability gaps and obsolescence issues in target detection, tracking, net-readiness, electronic countermeasures, and counter-UAS/counter-RAM capabilities.

The Counter-Rocket, Artillery, and Mortar (C-RAM) program continues to provide sense & warn and intercept capabilities in support of Operation Freedom's Sentinel and Operation Inherent Resolve. The C-RAM capability is comprised of a combination of multi-service fielded and non-developmental item sensors, command and control equipment, warning systems, and a Land-Based Phalanx Weapon System (LPWS, a modified U.S. Navy gun system). The FY17 President's Budget requests funding for Advanced Electronic Protection Enhancements as well as continued software development, testing, and fielding of the Rocket, Artillery, and Mortar Warn (RAM Warn) and C-RAM Intercept (LPWS) programs of record.

The Joint Tactical Ground Station (JTAGS) provides ballistic missile warning message data for the AMD architecture and Theater Combatant Commanders. The

FY17 President's Budget requests funding for the fielding of the Block 2, Phase 1 capability, modernizing JTAGS, and the continued development and testing of the Block 2, Phase 2 capability which utilizes both scanning and staring sensors from the Space Based Infrared System (SBIRS) constellation of satellites.

Mr. Chairman, Ranking Member Cooper, and Members of this Subcommittee, thank you for the opportunity to provide insight into the AMD portion of the PEO Missiles and Space portfolio. I look forward to addressing your questions.