

NOT FOR PUBLICATION UNTIL RELEASED BY
THE SENATE ARMED SERVICES COMMITTEE
SEAPOWER SUBCOMMITTEE

STATEMENT OF

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BEFORE THE

SEAPOWER SUBCOMMITTEE

OF THE

SENATE ARMED SERVICES COMMITTEE

ON

DEPARTMENT OF THE NAVY'S AVIATION PROGRAMS

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INTRODUCTION

Mr. Chairman, Senator Hirono, and distinguished members of the Subcommittee, we thank you for the opportunity to appear before you today to discuss the Department of the Navy's (DoN) Aviation programs. Our testimony will provide background and rationale for the Department's Fiscal Year 2017 budget request for aviation programs aligning to our strategic priorities and budgetary goals.

The United States is a maritime nation with global responsibilities. Our Navy and Marine Corps' persistent presence and multi-mission capability represent U.S. power projection across the global commons. They move at will across the world's oceans, seas and littorals, and they extend the effects of the sea-base and expeditionary basing deep inland. Naval Aviation provides our nation's leaders with "offshore and onshore options" where it matters, when it matters. We enable global reach and access, regardless of changing circumstances, and will continue to be the nation's preeminent option for employing deterrence through global presence, sea control, mission flexibility and when necessary, interdiction. We are an agile maritime strike, amphibious and expeditionary power projection force in readiness, and such agility requires that the aviation arm of our naval strike and expeditionary forces remain strong.

As described in the Chief of Naval Operations' *A Design for Maintaining Maritime Superiority* and the Commandant of the U.S. Marine Corps' *Advance to Contact*, today's strategic environment is dramatically more globalized with accelerating change. Global connections continue to multiply, fueled by rapid advances and proliferation in technology, particularly information technology. Our competitors are pursuing advanced weapon systems at levels and a pace of development that we have not seen since the mid-1980s. It is imperative that we fund a force that can fight and win against any of our five major challengers (Russia, China, Iran, North Korea and Global Counter-Terrorism), investing in advanced capabilities that increase our lethality, for both the current and future force. Our Fiscal Year 2017 budget addresses that imperative by

making investments to improve our ability to fight with decisive capability over the full range of operations – at sea, from the sea, and across all domains.

Our ability to respond to the dynamic strategic environment, high operational tempo and Combatant Commander (COCOM) requirements is constrained by the current fiscal realities. The Department is still recovering from reduced funding over Fiscal Years 2013-2016 that collectively provided \$30 billion less than the levels requested in our President's Budget submissions. The Bipartisan Budget Act of 2015 (BBA) provided critical relief from a return to sequestration levels in Fiscal Year 2016 and Fiscal Year 2017, but even with overseas contingency operations funding, the Navy's Fiscal Year 2017 request is 3.9 percent less than the Fiscal Year 2017 funding level requested in the Fiscal Year 2016 President's Budget.

This fiscal context drives difficult choices, but also fosters new thinking in order to best balance between capability, capacity, readiness and a vital industrial base. The Fiscal Year 2017 President's Budget integrates the mission guidance, operational context, and fiscal constraints in making focused investments, hard prioritized choices, and innovative reform to resource and delivers a global sea-based force. The Department's aviation plans are formulated to reach and maintain the required force structure with the right capabilities, while sustaining the initial industrial base required to support this force.

The Navy/Marine Corps *'Vision for Naval Aviation 2025'* provides the framework for determining investment priorities across the triad of warfighting capability, capacity, and aviation wholeness and there are several central themes to our 2017 Naval Aviation budget plan: 5th generation fighter/attack capability; netted persistent multi-role intelligence, surveillance, reconnaissance and targeting; supporting capabilities such as electronic attack, maritime patrol, and vertical lift; advanced strike weapons programs; readiness; and targeted modernization of the force for relevance and sustainability.

First, we are acquiring F-35 5th generation fighter/attack aircraft and planning to procure additional F/A-18E/F aircraft within the Future Years Defense Program (FYDP) to address near-term tactical aviation (TACAIR) capability and overutilization challenges. Our plan will integrate 5th generation technologies into the Carrier Air Wing (CVW), the Aviation Combat Element in our Amphibious Ready Groups, and expeditionary forces while maintaining and modernizing the capability of the current TACAIR fleet. The F-35B and F-35C will replace Marine Corps F/A-18 and AV-8B aircraft significantly increasing capabilities across the range of military operations of Marine sea- and land-based Marine Air-Ground Task Forces (MAGTFs). The F-35C, F/A-18E/F, and EA-18G provide complementary capabilities that enhance the versatility, lethality, survivability, and readiness of our CVWs. F/A-18A-F and AV-8B aircraft will continue to receive capability enhancements to sustain their lethality and Fleet interoperability well into the next decade. Future avionics upgrades will enable network-centric operations for integrated fire control, situational awareness and transfer of data to Joint command-and-control nodes afloat and ashore.

To meet the demand for persistent, multi-role intelligence, surveillance, and reconnaissance (ISR) capability, the Navy and Marine Corps are building a balanced portfolio of manned and unmanned aircraft focused on missions in the maritime environment. A future unmanned carrier-based capability (MQ-XX), which takes the place of the Unmanned Carrier Launched Airborne Surveillance and Strike (UCLASS) program, will enhance carrier capability and versatility for the Joint Forces Commander through integration of a persistent, sea-based, multi-mission aerial refueling and reconnaissance Unmanned Aircraft System (UAS) into the CVW. The MQ-XX system is envisioned to be an integral part of the future CVW; its robust organic refueling and long-endurance ISR capability, with open standards to enable future capabilities growth after it has been successfully integrated into the air-wing, is essential to the CVW Multi-Mission concept of the future. MQ-4C Triton will provide persistent land-based maritime ISR and complement our P-8 Multi-Mission Maritime Aircraft (MMA); MQ-8

Fire Scout will provide ISR support and Maritime surveillance to our Littoral Combat Ships (LCS), Fast Frigates (FF) and other suitably-equipped air-capable ships; and smaller unmanned systems such as the RQ-21A Blackjack and RQ-7B Marine Corps Tactical UAS will provide the shorter duration, line-of-sight reconnaissance capability integral at the unit level.

The Fiscal Year 2017 Budget request enables Naval Aviation to continue recapitalization and modernization of our aging fleets of airborne early warning and maritime patrol platforms. The Department is recapitalizing our fleet of E-2C airborne early warning aircraft with the E-2D, P-3C maritime patrol and reconnaissance with the P-8A, EA-6B airborne electronic attack with the EA-18G, and C-2A Carrier Onboard Delivery (COD) with the V-22. E-2D integrates a new active electronically-scanned array radar that provides a two-generation leap in technology with the capability to detect and track existing and emerging air-to-air and cruise missile threats in support of Integrated Air and Missile Defense. P-8A combines the proven reliability of the commercial 737 airframe with avionics that enable integration of modern sensors and robust communications. The fifth and sixth operational P-8A deployments are currently underway, and the program is on track to complete the transition of all twelve P-3C squadrons to P-8A by 2019. Electronic attack capabilities, both carrier-based and expeditionary, continue to mature with the fielding of EA-18G squadrons while we develop the Next Generation Jammer (NGJ) to replace the legacy ALQ-99 Tactical Jamming System. With the Marine Corps fielding of the F-35B and Intrepid II Tiger Pods, we have also added new Electronic Warfare (EW) and spectrum management capabilities across the MAGTF. Finally, the Department is planning to recapitalize its fleet of C-2A COD aircraft with an extended range variant of the V-22 (CMV-22B). The decision closes a capacity gap in the COD capability within an existing Program of Record (POR) and introduces new interoperability with the Amphibious Forces.

In Fiscal year 2017, the Navy and Marine Corps are recapitalizing and modernizing their vertical lift platforms while also participating in Joint Future Vertical Lift efforts to identify leverage points for future rotorcraft investment. The Department will do so with procurement of AH-1Z, and MV-22B, the continued development of the VH-92A (Presidential Helicopter replacement), and the continued development and initial production of the CH-53K. The ‘Special Purpose Marine Air-Ground Task Force-Crisis Response’ (SPMAGTF-CR), designed to support U.S. and partner security interests throughout the CENTCOM, EUCOM and AFRICOM Areas of Responsibility (AOR), leverages these vertical lift investments. The speed and range of the MV-22B, together with the KC-130J and joint tanker assets provides the SPMAGTF-CR with the operational reach to respond to crises throughout any AOR. The addition of the MV-22 Aerial Refueling System (VARs) will bring air refueling capability to the MV-22s and allow for a Roll-On/Roll-Off system to fill a critical air refueling capability of our sea-based forces, extending the reach and striking power of the MAGTF.

Within our Fiscal Year 2017 Budget request, the Department implements our Cruise Missile strategy and continues investments in advanced strike weapons programs. These include Air Intercept Missiles (AIM-9X/BLK II and AIM-120D); Small Diameter Bomb II (SDB II); Tactical Tomahawk Cruise Missiles (TACTOM/BLK IV); the Long-Range Anti-Ship Missile (LRASM); Next Generation Land Attack Weapon (NGLAW); Offensive Anti-Surface Warfare (OASuW) Increment II; the Advanced Anti-Radiation Guided Missile (AARGM); Advanced Precision Kill Weapon System II (APKWS II) and the Joint Air-to-Ground Missile (JAGM).

Readiness recovery remains one of the key areas of concern in the Department. We continue to have lower than acceptable numbers of aircraft available to train and fight; our Sailors and Marines are getting less time flying the aircraft we do have, to be as proficient as we expect them to be. This is a major concern as we are in a fiscally challenged environment and the department is in the midst of transitioning a significant

portion of its aircraft to more modern and lethal varieties. The Marine Corps alone is currently transitioning every single one of its Type/Model/Series aircraft. Increasing funding of the readiness accounts, to include spares, air systems support, repair parts, and support equipment, will be critical to ensure we can recover to an acceptable level of readiness. Given fiscal realities, our PB-17 submission represents an optimal balance of regaining an adequate level of current readiness while maintaining investment in new aircraft and capabilities – both of which are required to support current and enduring Naval Aviation requirements.

TACTICAL AVIATION

F-35B/F-35C Lightning II:

The F-35 Lightning II will form the backbone of U.S. air combat superiority for decades to come. Delivering this transformational capability to front-line forces as soon as possible remains a top priority. The F-35 will replace legacy tactical fighter fleets of the Navy and Marine Corps with a dominant, multirole, fifth-generation aircraft, capable of projecting U.S. power and deterring potential adversaries. The Fiscal Year 2017 President's Budget increases the procurement ramp and requests \$1.2 billion in Research, Development Test and Evaluation, Navy (RDT&E,N) and \$3.4 billion in Aircraft Procurement Navy (APN).

The F-35 program is executing relatively well across the entire spectrum of acquisition, to include development and design, flight test, production, fielding and base stand-up, sustainment of fielded aircraft, and stand up of a global sustainment enterprise. In February 2016, the F-35 reached 50,000 flight hours, including approximately 18,000 for the F-35B and almost 6,000 hours for the F-35C. Our overall assessment is that steady progress is continuing to be made on all aspects of the program. F-35 does continue to have its risks, including software development and integration, albeit less risk than was reported last year. The discipline instilled several years ago in the method by which software is developed, lab tested, flight tested, measured and controlled has

resulted in improved and more predictable outcomes and we have begun to see positive results.

The program completed all flight tests for Block 2B software and the Marine Corps declared its Initial Operational Capability (IOC) for F-35B in July 2015. Block 3i software test for Low Rate Initial Production (LRIP) was completed and is anticipated to deliver all planned capabilities in support of the U.S. Air Force (USAF) F-35A IOC later this year. The final system development and demonstration configuration, Block 3F, is now flying in developmental test and we are tracking toward a Navy F-35C IOC in Fiscal Year 2018. Block 3F, which has the most software development risk driven by data fusion, will build on the mission capabilities of Block 2B and add the remaining F-35 mission capabilities stated in the approved operational requirements document. Block 3F data fusion enables the aircraft to integrate onboard capabilities with information from multiple other sources, such as other F-35 aircraft, non-F-35 aircraft, satellites, and ground stations, in order to provide the pilot complete and accurate battlespace awareness. This multi-platform fusion is the most complex remaining developmental activity and is being closely monitored.

The program has delivered 170 aircraft to test, operational, and training sites, with the production line delivering F-35s per the contract schedule. Due to government/industry manufacturing initiatives, production deliveries improved from a three-month delay in early 2015 to be on contract schedule starting in December 2015.

Affordability remains a top priority. We continue to make it clear to the program management team and the F-35 industrial base that the development phase must complete within the time and money allocated; continue to drive cost out of aircraft production; and reduce life-cycle costs. To that end, the program has engaged in a multi-pronged approach to reduce costs across production, operations, and support. The government/industry team is reducing aircraft production costs through “blueprint for affordability” initiatives and reducing F135 engine costs via ongoing engine “war on cost” strategies.

These efforts include up-front contractor investment on cost reduction initiatives mutually agreed upon by the government and contractor team. This arrangement motivates the contractors to accrue savings as quickly as possible in order to recoup their investment, and benefits the government by realizing cost savings at the time of contract award. The goal is to reduce the flyaway cost of the USAF F-35A to between \$80 and \$85 million dollars by 2019, which is anticipated to commensurately decrease the cost to the Marine Corps F-35B and Navy F-35C variants. The program has also set a goal of decreasing overall operating and support life-cycle cost by 30 percent.

F/A-18 Overview

The F/A-18 Hornet is challenged to meet current readiness and operational commitments. There are 30 Navy Super Hornet strike fighter squadrons and a total inventory of 547 F/A-18E/Fs. Deliveries and squadron transitions will be planned to continue through 2020. There are six Navy and 11 Marine Corps F/A-18 A-D active strike fighter squadrons and a total inventory of 609 Hornets. Super Hornets and F/A-18A-D Hornets have conducted more than 219,454 combat missions since September 11, 2001.

F/A-18 A/B/C/D Hornet

The Fiscal Year 2017 President's Budget requests \$371.7 million in APN to implement aircraft commonality programs, enhance relevant capability, improve reliability, and ensure structural safety of the inventory of 609 F/A-18 A-D Hornets. \$31.4 million is for the Service Life Extension Program (SLEP).

The F/A-18A-D was designed for, and has achieved, a service life of 6,000 flight hours. These aircraft have performed as expected through their design life. Service life management of this aircraft is extending the life of this platform beyond its designed 6,000 flight hours. Through detailed analysis, inspections, and structural repairs, the DoN has been successful in achieving 8,000 flight hours for 171 aircraft and is pursuing a

strategy to go as high as 10,000 flight hours on select aircraft, with the leading aircraft currently above 9,550 hours. Continued investment in SLEP, the High Flight Hour (HFH) inspection program, Program Related Engineering, and Program Related Logistics is critical for our flight hour extension strategy and the ability of operational units to meet training and operational mission requirements.

In order to maintain warfighting relevancy in a changing threat environment, we will continue to procure and install advanced systems such as the Joint Helmet-Mounted Cueing System (JHMCS), High Order Language Mission Computers, ALR-67v3, ALQ-214v5, Multifunctional Information Distribution System (MIDS), Joint Tactical Radio System (JTRS), APG-73 radar enhancements, Advanced Targeting Forward looking Infrared (ATFLIR) upgrades, and LITENING for the Marine Corps on selected F/A-18A-D aircraft.

F/A-18 E/F Super-Hornet

The F/A-18E/F will be a mainstay of Navy's aviation CVW strike fighter force through 2035. The Fiscal Year 2017 President's Budget requests \$184.9 million for procurement of 2 F/A-18E/F aircraft with Overseas Contingency Operations funds; \$531.2 million in APN to implement aircraft commonality programs, enhance relevant capabilities, improve reliability, and ensure structural safety of the Super-Hornet fleet; and \$227.4 million RDT&E,N to support the Flight Plan spiral capability development of increased survivability, improved lethality, counter-electronic attack, and continuation of the F/A-18E/F Service Life Assessment Program (SLAP).

The F/A-18E/F significantly improves the survivability and strike capability of the CVW. The Super-Hornet provides increased combat radius and endurance, and a 25 percent increase in weapons payload over F/A-18A-D Hornets. The production program continues to deliver on-cost and on-schedule.

The Super-Hornet uses an incremental approach to incorporate new technologies and capabilities, to include Digital Communication System Radio, MIDS - JTRS, JHMCS, ATFLIR with shared real-time video, Accurate Navigation, Digital Memory Device, Distributed Targeting System, Infrared Search and Track and continued advancement of the APG-79 Active Electronically Scanned Array Radar. \$38.3 million of the 2017 RDT&E,N supports the F/A-18E/F SLAP requirement. The F/A-18 E/F fleet, on average, has flown approximately 45 percent of the design life of 6,000 flight hours. The remaining design service-life will not be adequate to meet anticipated operational requirements through 2035. In 2008, the Navy commenced a three phase F/A-18E/F SLAP to analyze actual usage versus structural test results and determine the feasibility of extending F/A-18E/F service life from 6,000 to 9,000 flight hours via a follow-on SLEP. The F/A-18E/F SLAP will identify the necessary inspections and modifications required to achieve 9,000 flight hours and increase total arrested landings and catapults beyond currently defined life limits. This extension is currently assessed as low risk. The Service Life Management Plan philosophy has been applied to the F/A-18E/F fleet at an earlier point in its lifecycle than the F/A-18A-D. This will facilitate optimization of Fatigue Life Expended, flight hours, and total landings, thereby better aligning aircraft service life with fleet requirements.

AV-8B Harrier

Since the beginning of the war on terror, the AV-8B Harrier has been a critical part of the strike fighter inventory for the Joint force. This aircraft has flown more than 54,000 hours in combat since 2003, an average of over 400 hours per aircraft, with zero losses from the enemy in the air, but six losses on the ground when the enemy broke through our perimeter at Bastion Air Base in 2012. The Fiscal Year 2017 President's Budget requests \$60.8 million in APN funds to continue the incorporation of Obsolescence Replacement/ Readiness Management Plan systems, electrical and structural enhancements, inventory sustainment and upgrade efforts to offset

obsolescence and attrition, LITENING Pod upgrades, F402-RR-408 engine safety and operational changes, and Digital Interoperability upgrades to include Link 16.

The Fiscal Year 2017, President's Budget requests \$33.7 million in RDT&E,N funds to continue Design, Development, Integration and Test of various platform improvements, to include Engine Life Management Program, Escape Systems, Joint Mission Planning System updates, Link 16 Digital Interoperability integration, Operational Flight Program (OFP) block upgrades to various mission and communication systems, navigation equipment, weapons carriage, countermeasures, and the Obsolescence Replacement/Readiness Management Plan.

The AV-8B continues to deploy in support of operational contingencies. Each Marine Expeditionary Unit (MEU) deploys with embarked AV-8Bs. The AV-8B equipped with LITENING targeting pods and a video downlink to ROVER ground stations, precision strike weapons, Intrepid Tiger II EW pods and beyond visual range air-to-air radar guided missiles, continues to be a proven, invaluable asset for the MAGTF and joint commander across the spectrum of operations. AV-8B squadrons, both land- and sea-based, have flown more than 3,400 hours of strike sorties against ISIS with an average combat radius of 900 miles. Digital Improved Triple Ejector Racks have allowed us to load up to six precision guided munitions per aircraft, with fuel tanks, guns, and LITENING Pods, exponentially increasing the combat viability of this platform. In Fiscal Year 2017 the Airborne Variable Message Format terminals will be installed in AV-8B to replace the current digital-aided close air support (CAS) technology. The program will continue development of the H6.2 OFP which will include initial integration of Link 16 message sets. Additionally, this OFP will integrate Federal Aviation Administration compliant Navigation Performance/Area Navigation capability, an update to the LITENING Common OFP to implement improvements to moving target tracking, and it will correct additional software deficiencies identified through combat operations. The program will also work on the H7.0 OFP which will integrate full Link

16 functionality. As an out-of-production aircraft, the AV-8B program will continue its focus on sustainment efforts to mitigate significant inventory shortfalls, maintain airframe integrity, achieve full Fatigue Life Expended, and address reliability and obsolescence issues of avionics and subsystems.

Operations ODYSSEY DAWN, ENDURING FREEDOM, FREEDOM SENTINEL, and today's Operation INHERENT RESOLVE confirm the expeditionary advantages of Short Take-Off and Vertical landing (STOVL) capabilities. Placing the Harrier as the closest multi-role fixed-wing asset to the battlefield greatly reduces transit times to the battlefield and enables persistent CAS without strategic tanking assets. Airframe sustainment initiatives, capability upgrades, and obsolescence mitigation is essential and must be funded to ensure the AV-8B remains lethal and relevant.

Next Generation Air Dominance (NGAD) Family of Systems

The Department initiated a Next Generation Air Dominance (NGAD) analysis of alternatives (AoA) in January 2016 to address the anticipated retirement of the F/A-18E/F and EA-18G aircraft beginning in the mid-late 2020 timeframe. The Joints Chiefs of Staff have approved the Initial Capabilities Document that frames NGAD study requirements to support the full range of military operations from carrier-based platforms. The AoA will consider the widest possible range of materiel concepts while balancing capability, cost/affordability, schedule, and supportability considerations. It will assess manned, unmanned, and optionally manned approaches to fulfill predicted 2030+ mission requirements. Analyses will consider baseline programs of record (current platforms), evolutionary or incremental upgrades to baseline programs (including derivative platforms), and new development systems or aircraft to meet identified gaps in required capability. The Fiscal Year 2017 budget requests \$1.2 million in RDT&E,N to continue this AoA.

STRIKE FIGHTER INVENTORY MANAGEMENT

The Department remains challenged with end of life planning for F/A-18A-D and AV-8B aircraft that reach the end of their service life before replacement aircraft can be fully delivered into service. To keep pace with the issue and provide high-fidelity analytical rigor to decision makers, DoN transitioned to the Naval Synchronization Tool in 2014. This inventory modeling and forecasting tool better informs Strike Fighter Inventory Management planning and the budget programming process.

The Strike Fighter inventory should be viewed in two separate and distinct phases. The near term challenge is managing a DoN TACAIR force that has been reduced in capacity through a combination of reduced Strike Fighter aircraft procurement, higher than planned TACAIR utilization rates, under resourcing sustainment and enabler accounts resulting in inadequate availability of spare parts, and F/A-18A-D depot production falling short of the required output. As a result of aggressive efforts instituted in 2014 across the Department to improve depot throughput and return more aircraft back to service, Fiscal Year 2015 depot throughput improved by 44 percent as compared to Fiscal Year 2014, returning to pre-sequestration levels of production. TACAIR aviation depots are expected to continue to improve productivity through 2017, and fully recover the backlog of F/A-18A-D aircraft in 2019, at which time the focus will shift toward F/A-18E/F service life extension, F-35 repair, and the rest of the DoN aircraft inventory. In a similar effort to increase Harrier aircraft availability, the Department conducted a Harrier Independent Readiness Review which identified a need for changes in the Harrier sustainment plan to achieve required flight line and inventory readiness. This year, with Congress' support, the Department is implementing the identified changes to return Harrier readiness to required levels.

In the far term, the Strike Fighter inventory is predominantly affected by new aircraft procurement: F/A-18E/F and F-35. COCOM-driven operations and Fleet

Readiness Training Plan requirements are driving an increased Strike Fighter utilization rate that currently outpaces procurement. Mitigation strategies, such as reducing utilization on current aircraft, are being examined by Commander, Naval Air Forces. Nonetheless, the DoN Strike Fighter force continues to meet Global Force Management operational commitments. We anticipate inventory pressure to remain relatively constant through the future as we experience peak depot inductions of F/A-18A-D aircraft reaching 8,000 hours HFH service life extension inspections, repairs and modifications, and later as depot inductions increase significantly due to required F/A-18E/F service life extensions. The continued efforts of the Naval Aviation Enterprise will define the necessary actions required to manage the end of life for aging F/A-18A-D and AV-8B aircraft, address further discovery of greater than expected fatigue and corrosion issues, maintain their operational relevancy, and ensure required availability of these aircraft until fully replaced by the Joint Strike Fighter.

The DoN POR includes 680 F-35 aircraft; 340 F-35B and 340 F-35C. The Navy and Marine Corps will continue to modify transition plans to adjudicate F-35 procurement changes. Sustainment and modernization funding will be required to maintain the relevant operational capability of the F/A-18A-F and the AV-8B throughout the transition to the F-35.

A 1,240 aircraft Strike Fighter force is the projected DoN inventory needed to support the anticipated operational demand through the 2030 timeframe. The Navy inventory requirement of 820 aircraft supports 40 active duty Strike Fighter squadrons composed of 440 aircraft (mix of 10-12 aircraft per squadron), and two reserve squadrons with 22 total aircraft assigned. This requirement includes 260 F-35C aircraft in 18 operational squadrons and one training squadron. In order to maintain the operational aircraft, support aircraft are required for aviator training, flight test, attrition reserve and depot pipeline. This inventory projection is estimated based on historical averages and assumes 100 percent squadron entitlement.

The Marine Corps TACAIR requirement is 420 F-35B/C aircraft in 18 active, two reserve, and two training squadrons. Integral to our current force structure reductions, our tactical aviation squadrons were restructured to optimize the support they provide to the MAGTF. The POR for Marine Corps F-35 includes four F-35C squadrons that are capable of being integrated with Navy carrier air wings and a fair share contribution of F-35C aircraft, pilots and maintainers to the Fleet Replacement Squadrons.

Airborne Electronic Attack (AEA) / EA-18G Growler

The Fiscal Year 2017 President's Budget request includes \$120.6 million in APN to implement aircraft commonality programs, maintain relevant capabilities, improve reliability, and ensure structural safety of the Growler fleet; and \$46.9 million in RDT&E,N for Flight Plan spiral capability development, design and integration of Jamming Techniques Optimization improvements, evolutionary software development and related testing.

In 2009, the Navy began the transition from EA-6Bs to EA-18Gs. The EA-18G is a critical enabler of the Joint force, bringing fully netted capabilities that provide electromagnetic spectrum dominance in an electromagnetic maneuver warfare environment. The first EA-18G squadron deployed to Iraq in an expeditionary role in November 2010 in support of Operation NEW DAWN, and subsequently redeployed to Italy on short notice in March 2011 in support of Operations ODYSSEY DAWN and UNIFIED PROTECTOR. The first carrier-based EA-18G squadron deployed in May 2011. Three active component Navy expeditionary squadrons, nine carrier based squadrons, and one reserve squadron have completed transition to the EA-18G. The nine carrier based EA-18G squadrons will fulfill Navy requirements for airborne electronic attack; six expeditionary EA-18G squadrons (five active, one reserve component) will provide the joint, high-intensity AEA capability required by the Joint Forces Commander, which was previously fulfilled by the Navy and Marine Corps EA-6B. The

Navy was divested of EA-6Bs in 2015; the Marine Corps will be by 2019, leaving the E/A-18G as the only dedicated tactical AEA platform in the DoD inventory. The funded inventory is 160 EA-18G aircraft, of which 114 have been delivered. Since their initial deployment, Growlers have flown more than 4,970 combat missions, have expended approximately 16 percent of the 7,500 flight hour life per aircraft, and are meeting all operational commitments.

Next Generation Jammer (NGJ)

NGJ is a new EW capability that will replace the 44-year old ALQ-99, currently the only Navy and Joint airborne Tactical Jamming System pod. The ALQ-99 has limited capability to counter tactically and technically advanced threats, is increasingly difficult and costly to maintain, and has a vanishing industrial supplier base. The Navy and DoD require NGJ to meet current and emerging EW threats. NGJ will have the necessary power and digital techniques to counter increasingly advanced and sophisticated adversary EW search, surveillance, and targeting-radars and communications systems. NGJ will be DoD's only comprehensive tactical AEA capability, supporting all Services and joint/coalition partners, and will be implemented in three increments: Mid-Band (Increment 1), Low-Band (Increment 2), and High-Band (Increment 3). NGJ is designed to provide improved capability in support of joint and coalition air, land, and sea tactical strike missions and is critical to the Navy's vision for the future of strike warfare. Our Fiscal Year 2017 budget request of \$577.8 million RDT&E,N is vital to maintain Increment 1 schedule, allow the program to complete the Critical Design Review, and begin pod hardware procurement and assembly of the Engineering and Development Models. In addition, \$13.0 million RDT&E,N will complete technology feasibility studies and initiate prototyping efforts for Increment 2, the lower frequency band capability, to validate the technology readiness levels of the major subsystems for Increment 2.

Airborne Electronic Attack (AEA) / EA-6B Prowler

The Fiscal Year 2017 President's Budget request includes \$15.4 million in RDT&E,N for EW Counter Response, \$20.8 million RDT&E,N for MAGTF EW, \$51.9 million in APN for AEA systems, and \$5.7 million APN for MAGTF EW.

Currently, there are 32 EA-6Bs which are distributed to three Marine Corps operational squadrons, one Navy flight test squadron, and one Marine Corps training squadron. Final retirement of the EA-6B from the DoN inventory will be in 2019.

Marine aviation is on a path toward a distributed AEA 'system of systems' that is a critical element in achieving the MAGTF EW vision: A composite of manned and unmanned surface, air, and space assets on a fully collaborative network providing the MAGTF commander freedom of maneuver in and through the electromagnetic spectrum when and where desired. Included in this plan are the ALQ-231 Intrepid Tiger II communications jammer, integration of F-35s organic EW capabilities, planned UAS EW payloads, and the Spectrum Services Framework network to facilitate collaborative EW Battle Management.

Intrepid Tiger II development and procurement is in response to Marine Corps requirements for increased precision EW capability and capacity across the MAGTF and provides EW capability directly to tactical commanders without reliance upon the limited availability of the low density/high demand EA-6B Prowler or E/A-18G. Intrepid Tiger II is currently carried on AV-8B and F/A-18 A++/C/D aircraft, has successfully completed nine deployments, and is currently deployed with both the 13th, 15th, 26th and 29th MEUs. Integration on Marine Corps rotary-wing aircraft is scheduled to be completed by the second quarter of Fiscal Year 2016. Development of an Intrepid Tiger II counter-radar capability for the penetrating electronic attack mission will begin in Fiscal Year 2016.

E-2D Advanced Hawkeye (AHE)

The Fiscal Year 2017 President's Budget requests \$363.8 million in RDT&E,N for continuation of added capabilities, to include Aerial Refueling, Secret Internet Protocol Router chat, Advanced Mid-Term Interoperability Improvement Program, MIDS/Joint Tactical Radio System Tactical Targeting Network Technology, Counter Electronic Attack, Sensor Netting, and Data Fusion, Navigation Warfare, Fighter to Fighter Backlink, ALQ217 Electronic Support Measures, and Crypto Modernization/ Frequency Remapping. In the fourth year of a 26 aircraft Multi-Year Procurement (MYP) contract covering Fiscal Years 2014-2018, the budget requests \$1,041.5 million in APN for six Full Rate Production (FRP) Lot 5 aircraft and spares, and Advance Procurement for Fiscal Year 2018 FRP Lot 6 aircraft.

The E-2D AHE is the Navy's carrier-based Airborne Early Warning and Battle Management Command and Control system. The E-2D AHE provides Theater Air and Missile Defense and is capable of synthesizing information from multiple onboard and off-board sensors, making complex tactical decisions and then disseminating actionable information to Joint Forces in a distributed, open-architecture environment. E-2D is also a cornerstone of the Naval Integrated Fire Control – Counter Air (NIFC-CA) system of systems capability.

Utilizing the newly developed AN/APY-9 Mechanical/Electronic Scan Array radar and the Cooperative Engagement Capability system, the E-2D AHE works in concert with tactical aircraft and surface-combatants equipped with the Aegis combat system to detect, track and defeat air and cruise missile threats at extended ranges. IOC was achieved in October 2014 and VAW-125 accomplished the first Fleet Squadron Deployment with the USS ROOSEVELT from March 11, 2015, through November 23, 2015.

ASSAULT SUPPORT AIRCRAFT

MV-22

The Fiscal Year 2017 President's Budget requests \$174.4 million in RDT&E,N for continued product improvements, including development of an Engineering Change Proposal for the Navy variant, the CMV-22B; and \$1.3 billion in APN for procurement of 16 Lot 21 MV-22s. The funds requested in the Fiscal Year 2017 President's Budget fully fund Lot 21, the final production lot of the second Multi-Year Procurement (MYP II), and procure long-lead items for Fiscal Year 2018 Lot 22 V-22 aircraft. Fiscal Year 2018 begins procurement of the Navy CMV-22B variant in support of the Carrier On-Board Delivery mission. The APN request also includes \$141.5 million to support Operations and Safety Improvement Programs (OSIPs), including Correction of Deficiencies and readiness improvements, with an additional \$8.7 million Overseas Contingency Operations requested for the Advanced Ballistic Stopping System.

MV-22 Osprey vertical flight capabilities, coupled with the speed, range, and endurance of fixed-wing transports, continue to enable effective execution of current missions that were previously unachievable. In November 2015, the V-22 fleet achieved its 300,000th flight hour milestone while executing at a high operational tempo consisting of multiple MEU deployments and two SPMAGTF-CR deployments in support of AFRICOM and CENTCOM. During 2015, the fourteenth of eighteen planned active component squadrons became fully operationally capable. This is significant because while the platform the MV-22 is replacing, the CH-46, flew its final flight on August 1, 2015, the full complement of MV-22s have not yet been produced. The MV-22 Osprey fleet has continued world-wide growth with 269 of 360 MV-22s delivered. There are also 48 of 53 USAF CV-22s delivered.

The V-22 Program focus is on delivery of MYP II production aircraft, sustaining Fleet aircraft, improving aircraft readiness, reducing operating costs, and expanding the

business base, both domestically and internationally. Both the MV-22 and CV-22 continue to meet all Key Performance Parameters, and cost and schedule performance remains within established thresholds. The DoN has initiated planning in preparation for a third MYP procurement (Fiscal Years 2018-2022) that would support procurement of the Navy CMV-22B variant, continued Marine Corps procurements, as well as potential future domestic and International sales. The stability of continuing procurement under a MYP benefits the supplier base and facilitates cost reductions on the part of both the prime contractor and sub-tier suppliers; and provides an incentive for additional V-22 procurements by international customers. In June of 2015, the Program's first Foreign Military Sales case was established with an initial procurement of five V-22s by the Government of Japan.

Due to extremely high demand for MV-22 capability from the COCOMs, and resultant high operational tempo, the mission capability rates have not continued the year-over-year improvements seen from 2010-2013. This is primarily due to a shortfall in our ability to train enlisted maintainers in the numbers and with the qualifications necessary to sustain the high demand signal. Resources are being shifted and standup, transition, and training plans are being modified, but it remains challenging to keep pace with the COCOM demand signal. Despite the impact on readiness, the cost per flight hour has dropped by nearly 26 percent since 2010. The fiscal Year 2017 OSIP provides a necessary and stable source of crucial modification funding as the program continues to implement readiness and cost reduction initiatives.

Concurrent with our readiness and support initiatives, we are adding capabilities to the MV-22 that will make it even more valuable to the COCOMs. First, we are expanding the number of aerial refueling platforms that can refuel an MV-22, increasing the range of available options to support extended range missions. A mission kit to allow the MV-22 to deliver fuel to other airborne platforms is also being developed. This is a critical enabler for both shore and sea-based operations. Initial capability is planned to

deliver by the summer of 2018. Finally, an important capability that is a priority for the entire aviation force is Digital Interoperability (DI). We are testing and deploying the initial configuration of an onboard suite of electronics that will allow the embarked troop commander and aircrew to possess unprecedented situational awareness via real-time transmission of full motion video and other data generated by multiple air and ground platforms throughout the battlespace. This DI suite will also be able to collect, in real-time, threat data gathered by existing aircraft survivability equipment and accompanying attack platforms, thereby shortening the kill chain against ground and air based threats.

In ongoing operations in the Middle East, the MV-22 has become the Tactical Recovery of Aircraft and Personnel (TRAP) platform of choice to rescue downed aircrew in hostile territory. Currently, Marines are on alert in Central Command to recover American and Coalition aircrew executing strike operations. The speed, range, and aerial refueling capability have allowed the Osprey's to remain in strategic locations throughout the area poised for rescue operations. With an unrefueled mission radius of 423 nautical miles, the Osprey can reach greater distances around the battlefield to increase the likelihood of recovering isolated personnel as the speed and altitude envelopes provide better survivability for the TRAP force and recovered aircrew.

CH-53K Heavy Lift Replacement Program

The Fiscal Year 2017 President's Budget requests \$405.0 million in RDT&E,N to continue the Engineering Manufacturing Development phase of the CH-53K program and \$438.0 million in APN for LRIP Lot 1. The first Engineering Development Model (EDM) achieved first flight on October 27, 2015, and continues testing. The second EDM conducted its first flight on January 22, 2016, with the two remaining EDM vehicles expected to begin flying in 2016. During Fiscal Year 2017, the program will continue to execute developmental test flights and assembly of System Demonstration Test Article aircraft, which will be production representative aircraft utilized for Operational Test.

The CH-53K will provide land and sea based heavy-lift capabilities not resident in any of today's platforms and contribute directly to the increased agility, lethality, and presence of joint task forces and MAGTFs. The CH-53K will transport 27,000 pounds of external cargo out to a range of 110 nautical miles under the most extreme operational conditions, nearly tripling the CH-53E's lift capability under similar environmental conditions, while fitting into the same shipboard footprint. The CH-53K, by providing unparalleled lift capability under high-altitude and hot weather conditions, greatly expands the commander's operational reach.

Compared to the CH-53E, maintenance and reliability enhancements of the CH-53K will improve aircraft availability and ensure cost effective operations. Additionally, survivability and force protection enhancements will dramatically increase protection for both aircrew and passengers. Expeditionary heavy-lift capabilities will continue to be critical to successful land and sea-based operations in future anti-access, area-denial environments, enabling sea-basing and the joint operating concepts of force application and focused logistics.

Over the past 13 years, the CH-53 community accumulated over 95,000 combat flight hours. During this period, we suffered fourteen aircraft losses; seven in combat and seven in training. As our CH-53E community approaches 30-years of service, these sustained and unprecedented operational demands have aged our heavy lift assault support aircraft, making it ever more challenging to maintain and underscoring the importance of its replacement, the CH-53K King Stallion.

The MH-53E continues to perform its primary mission of airborne mine counter measures as well as transport of cargo and personnel. Over the past 12 years the MH-53 community has accumulated 87,474 flight hours. It too is approaching 30-years of service life and continues to be a challenging asset to maintain. Mine countermeasures

operations puts added stress on these airframes. These aircraft are planned to remain in service until viable follow-on airborne mine countermeasure systems are fielded.

To keep the CH-53E and MH-53E viable through their remaining services lives, the 2017 President's Budget requests \$46.4 million in APN and \$5.1 million in RDT&E,N. The requested funding provides for critical capabilities, to include: Condition Based Maintenance software upgrades; Kapton wiring replacement installations; Improved Engine Nacelles; Non-recurring engineering for upgrades to the MH-53E's antiquated cockpit; Area Navigation capability; Moving map and hover displays; Embedded Global Positioning System/Inertial Navigation System; T-64 Engine Reliability Improvements; Critical Survivability Upgrade; Satellite Communications kits; and a Smart Multi-Function Color Display. These critical safety and avionics upgrades will address obsolescence issues within the cockpit and increase overall situational awareness and mission effectiveness.

ATTACK AND UTILITY AIRCRAFT

UH-1Y // AH-1Z

Marine Corps Venom and Viper utility and attack aircraft have been critical for the success of the Marines in harm's way, and over the past 10-years these aircraft have flown over 162,000 hours. The Fiscal Year 2017 President's Budget requests \$27.4 million in RDT&E,N for continued product improvements; and \$817.0 million in APN for 24 AH-1Z aircraft. The program is a key modernization effort designed to resolve existing safety deficiencies and enhance operational effectiveness of the H-1 fleet. The 85 percent commonality between the UH-1Y and AH-1Z will significantly reduce life-cycle costs and the logistical footprint, while increasing the maintainability and deployability of both aircraft. The program will provide the Marine Corps with 349 H-1 aircraft through a combination of new production and a limited quantity of remanufactured aircraft.

The H-1 Upgrades Program is replacing the Marine Corps' UH-1N and AH-1W helicopters with state-of-the-art UH-1Y "Venom" and AH-1Z "Viper" aircraft. The new aircraft are fielded with integrated glass cockpits, world-class sensors, and advanced helmet-mounted sight and display systems. The future growth plan includes a digitally-aided, close air support system designed to integrate these airframes, sensors, and weapons systems together with ground combat forces and other capable DoD aircraft. Integration of low-cost weapons such as the APKWS II provides increased lethality while reducing collateral damage.

The UH-1Y aircraft achieved IOC in August 2008 and FRP in September 2008. The "UH-1Y Forward" procurement strategy prioritized UH-1Y production in order to replace the under-powered UH-1N fleet as quickly as possible. The last UH-1N was retired from service as of December 2014. The AH-1Z program received approval for FRP in November 2010 and achieved IOC in February 2011. As of January 2016, 171 aircraft (124 UH-1Ys and 47 AH-1Zs) have been delivered to the Fleet Marine Force. An additional 72 aircraft are on contract and in production, to include the first three of 12 Pakistan Foreign Military Sales aircraft. Lot 1-7 (Fiscal Years 2004-2010) aircraft deliveries are complete for both the UH-1Y and AH-1Z. Lot 8, 9, and 10 (Fiscal Years 2011-2013) deliveries are complete for the UH-1Y, and Lot 11 UH-1Y deliveries are in progress and ahead of schedule.

The H-1 Upgrades program is in the process of integrating both the UH-1Y and AH-1Z into the Digital Interoperability environment being established across the MAGTF. With the integration of Intrepid Tiger II EW pod, the Marine Corps' Light Attack Helicopter Squadron community will be able to provide the MAGTF Commanders with all six essential functions of Marine Air. Additionally, these aircraft will incorporate Software Reprogrammable Payloads (SRP) which enables utilization of diverse networks and waveforms, thereby enabling maneuverability within the EM spectrum. SRP will employ systems such as Link-16, Tactical Targeting Network

Technology, Adaptive Networking Wideband Waveform, and the Soldier Radio Waveform.

MH-60 (Overview)

MH-60 Seahawks have consistently met readiness and operational commitments. There will be 38 Navy Seahawk squadrons, with 275 MH-60S and 280 MH-60R aircraft, when transitions from the SH-60B, SH-60F, and HH-60H are complete. The last MH-60S delivered in January of 2016 and MH-60R deliveries are projected to continue into fiscal year 2018. The production program continues to deliver on-cost and on-schedule. Over the last twelve years of combat operations, deployed ashore and aboard our aircraft carriers, amphibious ships, and surface combatants at sea, Navy H-60 helicopters have provided vital over-watch and direct support to troops in combat across multiple theaters of operation and a variety of mission areas; including support for special operations forces, air ambulance, surface warfare, anti-submarine warfare, mine warfare, logistics support and humanitarian assistance/disaster relief.

The MH-60R Multi-Mission Helicopter provides strike group protection and adds significant capability in its primary mission areas of Undersea Warfare and Surface Warfare; the latter including Fast Attack Craft/Fast In-shore Attack Craft threat response capabilities. The MH-60R is the sole organic air Anti-Submarine Warfare (ASW) asset in the Carrier Strike group and serves as a key contributor to theater level ASW. The MH-60R also employs advanced sensors and communications to provide real-time battlespace management with a significant, active or passive, over-the-horizon targeting capability. Secondary mission areas include Search and Rescue, Vertical Replenishment, Naval Surface Fire Support, Logistics Support, Personnel Transport and Medical Evacuation.

The MH-60S supports Carrier and Expeditionary Strike Groups, Combat Logistics Ships, and LCS in the mission areas of SUW, Strike Warfare, Combat Search and

Rescue, Vertical Replenishment (VERTREP), and will soon be supporting the LCS Mine Counter Measures Mission Package.

MH-60R/S Budget

The Fiscal Year 2017 President's Budget requests \$52.3 million in RDT&E,N across the Future Years Defense Program (FYDP) for a Service Life Assessment Program (SLAP). SLAP is critical to sustaining this critical capability. This program will inform the Department on what will be required to extend the MH-60 airframe service life beyond 2030. The program will initially focus on the air vehicle and include a Fatigue Life Assessment, Dynamic Component, and Subsystem Analysis to inform Service Life Extension Program (SLEP) requirements.

The Fiscal Year 2017 President's Budget requests \$61.2 million in APN for ancillary, support equipment, and field activities in support of the final aircraft deliveries.

The Budget request also includes \$5.3 million in RDT&E,N to support the MH-60 test program and other improvements. The MH-60 test program consists of numerous system upgrades and Pre-Planned Product Improvements, to include the Digital Rocket Launcher with APKWS II, MIDS - Low Volume Terminal Block Upgrade 2, and the VHF Omnidirectional Ranging/Instrument Landing System. Other improvements under this RDT&E,N line item are for MH-60S active/passive aircraft survivability equipment and MH-60S fixed forward-firing weapon/rocket corrections of deficiencies. These investments continue to improve the overall lethality of the MH-60 which is a critical enabler to sea control and provides forward-deployed capabilities to defeat area-denial strategies, allowing joint forces to project and sustain power.

EXECUTIVE SUPPORT AIRCRAFT

VH-3D/VH-60N Executive Helicopter Series

The VH-3D and VH-60N are safely performing the Executive Lift mission worldwide. As these aircraft continue to provide seamless vertical lift for the President of the United States, the DoN is working closely with HMX-1 and industry to sustain these aircraft until a Presidential Helicopter Replacement platform (VH-92A) is fielded. The Fiscal Year 2017 President's Budget requests an investment of \$66.8 million of APN to continue programs that will ensure the in-service Presidential fleet remains safe and reliable. Ongoing efforts include a Communications Suite Upgrade (Wide Band Line of Sight) that provides persistent access to the strategic communications network, the continuing Structural Enhancement Program necessary to extend the service life, and Obsolescence Management needed to sustain and improve system readiness for both VH-60N and VH-3D platforms. The Cabin Interior and Environmental Control System upgrade is a critical obsolescence management effort for the VH-3D, reducing aircraft operational weight and improving maintainability. Where appropriate, technology updates for legacy platforms will be directly leveraged for the benefit of the VH-92A program.

VH-92A Presidential Helicopter Replacement Aircraft

The Fiscal Year 2017 President's Budget request includes \$338.4 million of RDT&E,N to fund the VH-92 Engineering Manufacturing Development contract and associated government activities. The Sikorsky S-92A aircraft will be used to execute the acquisition strategy of integrating mature subsystems into an air vehicle that is currently in production. Significant progress has been made in the past year, with completion of the System Preliminary Design Review in August, successful completion of the antenna co-site risk reduction ground and flight testing in September, and induction of two S-92A aircraft into the modification process. These will become EDM aircraft (EDM 1 and 2). Critical Design Review is planned for the 4th quarter of Fiscal Year 2016. Contractor

ground and flight testing for airworthiness certification is planned for 2017 and Government ground and flight testing is planned to commence in 2018. The first four of the planned operational inventory of 21 aircraft are planned to achieve IOC in 2020.

FIXED-WING AIRCRAFT

KC-130J

The DoN implemented plans to procure two KC-130Js per year starting in Fiscal Year 2016 and to continue product improvements. Targeted improvements include aircraft survivability through advanced electronic countermeasure modernization and obsolescence upgrades to the Harvest HAWK ISR/Weapon Mission Kit.

Fielded throughout our active force, the KC-130J brings increased capability, performance and survivability, with lower operating and sustainment costs for the MAGTF. Forward deployed in support of ongoing operations since 2005, the KC-130J continues to deliver Marines, fuel and cargo whenever and wherever needed. In 2016, the KC-130J remains in high demand, providing tactical air-to-air refueling, assault support, CAS and Multi-sensor Imagery Reconnaissance (MIR) capabilities in support of Special Purpose MAGTFs and deployed MEUs.

First deployed in 2010, the roll-on/roll-off Harvest HAWK mission kit for the KC-130J continues to provide extended MIR and CAS capabilities. With almost 7,000 hours flown, 210 Hellfire missiles, 91 Griffin missiles, and six Viper Strike munition combat engagements, this expeditionary mission kit has proven its worth and made the KC-130J even more indispensable for Marines on the ground. All six mission kits have been fielded, and funding included in the Fiscal Year 2017 budget request will be used to maintain operational relevance of this mission system through compatibility with additional Hellfire variants and an improved full motion video data-link.

The Marine Corps has funded 65 of the 79 KC-130J aircraft through the current FYDP. The three aircraft included in the Fiscal Year 2013 budget would have completed the Active Component (AC) requirement of 51 aircraft. However, in 2014 the Marine Corps began using the AC backup aircraft to accelerate the Reserve Component (RC) transition from the legacy KC-130T aircraft to the more capable and efficient KC-130J. The aircraft requested in the Fiscal Year 2017 President's Budget will continue to increase KC-130J inventory as we strive to achieve Full Operational Capability in the RC. Delays in procurement would force the Marine Corps to sustain the KC-130T aircraft longer than planned at an increased cost.

It is also important to note that the USAF C-130J procurement is anticipated to end in 2025. If the Marine Corps procure KC-130Js at a rate of two per year, we will have approximately six aircraft remaining to procure after Fiscal Year 2025 in order to reach the POR of 79 aircraft. The loss of USAF aircraft quantities and the uncertainty of additional Foreign Military Sales may result in a significant unit cost increase for these final few aircraft.

MARITIME SUPPORT AIRCRAFT

P-8A Poseidon

The P-8A Poseidon recapitalizes the Maritime Patrol ASW, Anti-Surface Warfare (ASuW) and armed ISR capability currently resident in the P-3C Orion. The P-8A combines the proven reliability of the commercial 737 airframe with avionics that enables integration of modern sensors and robust communications. The P-8A's first operational deployment was completed in June 2014, and continuous 7th Fleet operational deployments are underway. As of December 2015, five Fleet squadrons have completed transition to P-8A and a sixth is underway. All Fleet squadrons are scheduled to complete transition by the end of Fiscal Year 2019. The P-8A program is meeting all

cost, schedule and performance parameters in accordance with the approved Acquisition Program Baseline.

The prime contractor (Boeing Company) has delivered 36 aircraft (LRIP I/II/III/IV) to the Fleet as of December 2015, and four remaining LRIP IV aircraft are scheduled to deliver by May 2016. FRP 1 (16 aircraft) is under contract and will start delivering in May 2016. FRP 2 and 3, which consist of nine Navy and four Royal Australian Air Force (RAAF) aircraft in FRP 2 and sixteen Navy and four RAAF aircraft in FRP 3, awarded in August 2015. The Fiscal Year 2017 President's budget procures 47 P-8As over the FYDP and sustains the P-3C to P-8A transition. In Fiscal Year 2017 the warfighting requirement remains 117 aircraft; however, the fiscally constrained inventory objective for 109 aircraft will provide adequate capacity at acceptable levels of risk.

The first upgrade under P-8A Increment 2 added a broad-area, multi-static acoustic ASW capability to the aircraft. This capability, referred to as "MAC (Multi-Static Active Coherent)" significantly increases the P-8A's ASW search rates in harsh littoral environments. The capability is scheduled to receive regular incremental enhancements and upgrades over the next seven years in order to pace the ASW threat. MAC completed Follow-on Operational Test & Evaluation in April 2015 and has been delivered to the Fleet.

The Navy is on track to field additional Increment 2 MAC capabilities to include improvements to the Operator-Machine Interface in 2016. Separately, Increment 2 integration of a High Altitude ASW Weapons Capability continues under a contract awarded in December 2014, in support of a planned 2017 Fleet introduction.

P-3C Orion

The aging P-3 fleet will continue to provide critical ASW, ASuW and ISR support for joint and naval operations worldwide until the Fleet completes transition to P-8A.

The Fiscal Year 2017 budget request provides \$2.8 million in funding required to manage P-3C aircraft mission systems obsolescence during the transition. As of December 2015, 61 P-3 Special Structural Inspection-Kits have been installed (one remaining); 89 Zone 5 modifications completed (last aircraft in work); and 26 Outer Wing Installations completed (last three aircraft in work).

The P-3 aircraft is well beyond the original planned fatigue life of 7,500 hours for critical components, with an average airframe usage of over 18,700 hours. The Fiscal Year 2017 request of \$1.9 million continues to fund the P-3 Fatigue Life Management Program so the Navy can maintain sufficient capacity to successfully complete the transition to P-8A.

EP-3 Aries Replacement/Sustainment

The EP-3E Aries is the Navy's premier manned Maritime Intelligence, Surveillance, Reconnaissance, and Targeting (ISR&T) platform. The Joint Airborne Signals intelligence (SIGINT) Common Configuration includes Multi-Intelligence sensors, robust communication, and data links employed by the flexible and dependable P-3 air vehicle to ensure effective Maritime ISR&T support across the full Range of Military Operations. The Fiscal Year 2011 National Defense Authorization Act directed Navy to sustain EP-3E airframe and mission systems relevance to minimize SIGINT capability gaps until the systems are fully recapitalized with a platform or family of platforms that in the aggregate provide equal or better capability and capacity.

Navy ISR family of systems approach shifts focus from platforms to payloads. The future force will rapidly respond to changing threats with modular, scalable, netted sensors and payloads on a range of sea and shore-based manned and unmanned systems, establishing persistent Maritime ISR when and where it is needed.

Navy's ISR&T transition plan will deliver increased capacity and persistence by the end of the decade. However, due to fiscal and end strength constraints, the

Department will accept some risk in near term capability and capacity. The EP-3 Fiscal Year 2017 budget request of \$22.2 million (baseline and OCO) reduces risk compared to the previous fiscal year and the Navy continues to work with Joint Staff, DoD, and the Fleet to optimize the ISR transition plan. The transition plan remains largely unchanged from Fiscal Year 2016.

UNMANNED AIRCRAFT SYSTEMS (UAS)

The DoN has placed a priority on the development of unmanned systems leading to a fully integrated manned and unmanned fleet. Unmanned technology will not replace our Sailors and Marines, instead it will unlock their full potential as we integrate this technology with our total force.

MQ-4C Triton UAS

The Fiscal Year 2017 President's Budget enables MQ-4C Triton to continue production with four LRIP aircraft in Fiscal Year 2016 and two LRIP aircraft in Fiscal Year 2017.

The Fiscal Year 2017 President's Budget requests \$111.7 million in RDT&E,N to continue Triton development activities, \$181.3 million in RDT&E for Triton modernization, and \$579.2 million of APN for procurement of the second lot of LRIP aircraft and spares; and for procurement of long lead materials for the first lot of FRP aircraft.

Triton will start establishing five globally-distributed, persistent maritime ISR orbits beginning in Fiscal Year 2018, as part of the Navy's Maritime ISR&T transition plan. MQ-4C Triton test vehicles have completed 57 total flights as of February 2016 and are continuing sensor flight testing this spring. An Operational Assessment was completed in December 2015. This rigorous integrated flight test program will support Milestone C planned for Fiscal Year 2016. The MQ-4C Triton is a key component of the

Navy Maritime Patrol Reconnaissance Force. Its persistent sensor dwell, combined with networked sensors, will enable it to effectively meet ISR requirements in support of the Navy Maritime Strategy.

The Navy currently maintains an inventory of four RG-4A Global Hawk Block 10 UAS, as part of the BAMS Demonstrators, or BAMS-D program. These aircraft have been deployed to CENTCOM's AOR for over seven years. BAMS-D recently achieved over 18,000 flight hours in support of CENTCOM ISR tasking. These assets are adequate to address Navy needs through Fiscal Year 2018.

MQ-XX

In 2015, the Office of the Secretary of Defense conducted a comprehensive Strategic Portfolio Review (SPR) of DoD ISR programs. The results of the SPR, and a subsequent ISR portfolio review, as reflected in our Fiscal Year 2017 President's Budget, is the restructure of the UCLASS program. This new program, MQ-XX, will deliver the Navy's first carrier-based unmanned aircraft. The MQ-XX program will deliver a high-endurance unmanned aircraft that will replace today's F/A-18E/F aircraft in its role as the aerial tanker for the Navy's CVW, thus preserving the strike fighter's flight hours for its primary missions. MQ-XX will also leverage the inherent range and payload capacity of high endurance unmanned aircraft to provide critically-needed, around the clock, sea-based ISR capability in support of the Carrier Battle Group and the Joint Forces Commander. The Navy envisions that the open standards to be employed in the MQ-XX design will enable future capabilities to be introduced to the aircraft after it has been fully integrated into the CVW. The Fiscal Year 2017 President's Budget requests \$89.0 million in RDT&E,N for MQ-XX developmental activities.

Ongoing Carrier modifications to prepare Mission Control Spaces and integrate UCLASS architecture will be leveraged for MQ-XX, as will the Control System and

Connectivity segment and the Common Control System programs currently in development.

MQ-8 Fire Scout

The MQ-8 Fire Scout is a rotary-wing air system that includes two airframe types, the MQ-8B and MQ-8C. The MQ-8C is a larger, more capable and more cost-effective airframe that uses the same ground control station, avionics and payloads as the MQ-8B. The system is designed to operate from any suitably-equipped air-capable ship, carry modular mission payloads, and operate using the Tactical Control System and Line-Of-Sight Tactical Common Data Link. The Fiscal Year 2017 President's Budget requests \$26.5 million of RDT&E,N to continue development of the MQ-8C endurance upgrade, to include integration of ISR payloads and radar, and studies for future payloads such as short range air to surface weapons and mine counter measures. Funding will also be used to continue payload and LCS/FF integration with the MQ-8B and MQ-8C. The request for \$92.9 million in APN procures one MQ-8C air vehicle; MQ-8 system mission control systems; ancillary, trainers and support equipment; technical support; modifications based on engineering changes; and logistics products and support to outfit suitably-equipped air-capable ships and train the associated Aviation Detachments.

The MQ-8B has completed ten operational deployments and flown more than 15,000 operational hours, including: deployments to Afghanistan from May 2011 until August 2013 for more than 5,100 dedicated ISR flight hours in support of U.S. and coalition forces; more than 8,100 hours on Navy Frigates; and 160 hours aboard LCS performing more than 2,000 autonomous ship board take-offs and landings in support of Special Operations Forces and Navy operations. The MQ-8B is deployed today with HSM-35 in a composite aviation detachment with a MH-60R on USS FORTH WORTH (LCS 3), and will deploy with a maritime search radar capability this Fiscal Year. Integration with the Coastal Battlefield Reconnaissance and Analysis Mine Countermeasures capability is underway.

The MQ-8C Fire Scout has flown more than 765 flight hours conducting developmental testing, and completed 84.2 flight hours during its successful completion of a land based Operational Assessment in the first quarter of Fiscal Year 2016. The Navy is executing efforts for integration of a radar capability into the MQ-8C, and is planning to integrate the APKWS II and Mine Countermeasures payloads. The Fire Scout program will continue to support integration and testing for LCS-based mission modules.

Tactical Control System (TCS)

The Fiscal Year 2017 President's Budget requests \$8.4 million in RDT&E,N for the MQ-8 System's Tactical Control System (TCS). TCS provides a standards-compliant open architecture with scalable command and control capabilities for the MQ-8 Fire Scout system. In Fiscal Year 2017, TCS will continue transition of the Linux operating system to a technology refreshed mission control system, and enhance the MQ-8 System's Automatic Identification System and sensor track generation integration with ship systems. The Linux operating system conversion overcomes hardware obsolescence issues with the Solaris based control stations and provides lower cost software updates using DoD common application software. In addition, the TCS Linux upgrade will enhance collaboration with the Navy's future UAS Common Control System.

RQ-21A Blackjack

The Fiscal Year 2017 President's Budget requests \$14.6 million in RDT&E (\$5.1 million USN, \$9.5 million USMC); \$70.0 million in APN for four Navy systems to support Naval Special Warfare; and \$80.2 million in Procurement, Marine Corps for four expeditionary RQ-21A systems (which includes 20 air vehicles) to address Marine Corps ISR capability requirements. This Group 3 UAS will provide persistent ship and land-based ISR support for expeditionary tactical-level maneuver decisions and unit level force defense and force protection missions. Blackjack entered LRIP in 2013, completed

Initial Operational Test & Evaluation in the second quarter of Fiscal Year 2015, and reached IOC in January 2016. FRP is planned for the fourth quarter of Fiscal Year 2016.

The RQ-21's current configuration includes full motion video, communications relay package and automatic identification systems. The air vehicle's payload bay allows for rapid deployment of signal intelligence payloads. The Marine Corps is actively pursuing technological developments for the RQ-21A system in an effort to provide the MAGTF and Marine Corps Forces Special Operations Command with significantly improved capabilities. Initiatives include over-the-horizon communication and data relay ability to integrate the system into future networked digital environments; electronic warfare and cyber payloads to increase non-kinetic capabilities; and change detection radar and moving target indicators to assist warfighters in battlespace awareness and force application.

Common Control System (CCS)

The Fiscal Year 2017 President's Budget requests \$36.5 million in RDT&E,N for the Common Control System (CCS). The primary mission of CCS is to provide common control across the Navy's unmanned systems (UxS) portfolio to add scalable and adaptable warfighting capability, implement robust cybersecurity attributes, leverage existing government owned products, eliminate redundant software development efforts, consolidate product support, encourage innovation, improve cost control, and enable rapid integration of UxS capabilities across all domains: Air, Surface, Sub-Surface, and Ground. CCS leverages existing Government owned software to provide UxS Vehicle Management (VM), Mission Management (MM) and Mission Planning (MP) capabilities. CCS uses an open and modular business model and is being developed initially as Government Furnished Information/Equipment for the MQ-XX and for follow-on use with Triton and Fire Scout. In Fiscal year 2017, CCS Increment I will continue to perform software design, development, integration and test for VM.

Concurrently, CCS Increment II will conduct MM/MP requirements development and software design.

STRIKE WEAPONS PROGRAMS

Cruise Missile Strategy

The Department's Cruise Missile Strategy has been fully defined with the Fiscal Year 2017 budget submission. Developmental and sustainment efforts of this strategy include; support of Tomahawk Land Attack Block III and TACTOM Block IV through anticipated service lives, integration of modernization and obsolescence upgrades to TACTOM during a mid-life recertification program (which extends the missile service life an additional 15-years), fielding of the LRASM as the OASuW Increment 1 material solution to meet near to mid-term threats, and development of follow on Next Generation Strike Capability (NGSC) weapons to address future threats and targets in time to replace or update legacy weapons while bringing next generation technologies into the Navy's standoff conventional strike capabilities. NGSC includes capabilities for both the air-launched OASuW Increment 2 capabilities to counter long-term anti-surface warfare threats, and a surface and sub-surface-launched NGLAW to initially complement, and then replace, current land attack cruise missile weapon systems.

Tactical Tomahawk (TACTOM) BLK IV Cruise Missile Program

The Fiscal Year 2017 President's Budget requests \$186.9 million in Weapons Procurement, Navy (WPN) for procurement of an additional 100 TACTOM weapons and associated support, \$71.0 million in Other Procurement, Navy (OPN) for the Tomahawk support equipment, and \$71.3 million in RDT&E,N for capability updates of the weapon system. WPN resources will be for the continued procurement of this versatile, combat-proven, deep-strike weapon system in order to meet ship load-outs and combat requirements. OPN resources will address the resolution of Tactical Tomahawk Weapons Control System obsolescence, interoperability, and information assurance

mandates. RDT&E,N resources will be used to develop navigation system improvements and communications upgrades to improve TACTOMs performance in Anti-Access/Area Denial environments, as well as development of a seeker to enable TACTOM to engage maritime targets.

Tomahawk provides an attack capability against fixed and mobile targets, and can be launched from both Ships and Submarines. The current variant, TACTOM, preserves Tomahawk's long-range precision-strike capability while significantly increasing responsiveness and flexibility. TACTOM's improvements include in-flight retargeting, the ability to loiter over the battlefield, in-flight missile health and status monitoring, and battle damage indication imagery - providing a digital look-down "snapshot" of the battlefield via a satellite data link. Other Tomahawk improvements include rapid mission planning and execution via Global Positioning System (GPS) onboard the launch platform and improved anti-jam GPS.

Tomahawk Theater Mission Planning Center (TMPC)

The Fiscal Year 2017 President's Budget for TMPC requests \$13.2 million in RDT&E,N and \$40.1 million in OPN. TMPC is the mission planning and strike execution segment of the Tomahawk Weapon System. TMPC develops and distributes strike missions for the Tomahawk Missile; provides for precision targeting, weaponeering, mission and strike planning, execution, coordination, control and reporting. TMPC provides COCOMs and Maritime Component Commanders the capability to plan and/or modify conventional Tomahawk Land-Attack Missile missions. TMPC is a Mission Assurance Category 1 system, vital to operational readiness and mission effectiveness of deployed and contingency forces. RDT&E,N efforts will address National imagery format changes, update Tomahawk navigation and accuracy algorithms - to include operations in the maritime and/or Anti-Access Area Denial environments, upgrade obsolete Tomahawk Cruise Missile Communications and initiate a Tomahawk seeker integration into the TMPC mission planning environment. OPN

resources will enable the Navy to continue software engineering effort associated with Tomahawk Missile Modernization, upgrade unsupportable and obsolete TMPC software to ensure compliance with DoD cybersecurity mandates, and implement the TMPC Enterprise Network to allow for rapid delivery of security policies, cybersecurity software patches and anti-virus definitions. All of these upgrades are critical for the support of over 180 TMPC operational sites worldwide, afloat and ashore, to include: Cruise Missile Support Activities (inclusive of STRATCOM), Tomahawk Strike and Mission Planning Cells (5th, 6th, 7th Fleet), Carrier Strike Groups, Surface and Subsurface Firing Units and Labs/Training Classrooms.

Offensive Anti-Surface Warfare (OASuW) Increment 1 (Long Range Anti-Ship Missile (LRASM))

The Fiscal Year 2017 President's Budget request contains \$250.4 million in RDT&E,N and \$29.6 million in WPN for OASuW Increment 1 (LRASM). RDT&E,N funding will support the completion of technology maturation and initiation of the integration and test phase of the program; WPN funding will procure the initial 10 All-Up-Round weapons. OASuW Increment 1 (LRASM) leverages the Defense Advanced Research Projects Agency (DARPA) weapon demonstration effort. This program will provide COCOMs the ability to conduct ASuW operations against high-value surface combatants protected by Integrated Air Defense Systems with long-range Surface-to-Air Missiles and deny adversaries the sanctuary of maneuver. The OASuW Increment 1 (LRASM) program has nearly completed transition from DARPA to Navy leadership and is scheduled to achieve Early Operational Capability on the Air Force B-1 by the end of Fiscal Year 2018 and Navy F/A-18E/F by the end of Fiscal Year 2019.

Next Generation Strike Capability (NGSC)

To ensure Navy maintains its strike capability in the next decade and beyond, the Department is pursuing an NGSC as part of the overarching Cruise Missile Strategy. NGSC will be a family of more lethal, survivable, and affordable multi-mission standoff

weapons employable from multiple platforms. The family of NGSC weapons will be capable of attacking land, maritime, stationary, and mobile targets while supporting two of the Navy's primary mission areas: power projection (land attack from the air/sea/undersea) and sea control against enemy surface action groups and other combatants (ASuW). To the maximum extent possible, the Navy plans to utilize common components and component technologies (e.g. navigation, communications, seeker, guidance and control) to reduce cost, shorten development timelines, and promote interoperability. Based on performance requirements and launch parameters, it is likely the missile airframes and propulsion systems will differ between the air-launched and sea-launched weapons. NGLAW is planned as the follow-on surface/sub-surface launched long-range strike capability to address the 2028 and beyond land attack and maritime threats and gaps. NGLAW is envisioned to complement, and then eventually replace, the Tomahawk Weapon System, which will be operational until the mid-late 2040s. OASuW Increment 2 is planned to address the long-term 'air-launched' anti-surface warfare requirements for employment within advanced anti-access environments. The Fiscal Year 2017 budget requests \$9.9 million for NGLAW and \$2.0 million for OASuW Increment 2.

Sidewinder Air-Intercept Missile (AIM-9X)

The Fiscal Year 2017 President's Budget requests \$56.3 million in RDT&E,N and \$70.9 million in WPN for this joint DoN and USAF program. RDT&E,N will be applied toward the Engineering Manufacturing Development phase of critical hardware obsolescence redesign and Developmental Testing of Version 9.4 missile software; both part of the AIM-9X/BLK II System Improvement Program (SIP III). Navy also continues the design and development of Insensitive Munitions improvements in accordance Joint Chiefs of Staff direction. WPN funding is requested to procure a combined 152 All-Up-Rounds and Captive Air Training Missiles and associated missile-related hardware. Fiscal Year 2017 will be the first year the Department procures the Block II+ configuration which delivers survivability enhancements to launch platforms. The AIM-9X Block II/Block II+

Sidewinder is the newest in the Sidewinder family. It is the only short-range infrared air-to-air missile integrated on Navy, Marine Corps, and USAF strike-fighter aircraft and will be integrated on Marine Corps attack helicopters. This fifth-generation weapon incorporates high off-boresight acquisition capability and increased seeker sensitivity through an imaging infrared focal plane array seeker with advanced guidance processing for improved target acquisition; data link capability; and advanced thrust vectoring capability to achieve superior maneuverability and increase the probability of intercept of adversary aircraft.

Advanced Medium-Range Air-to-Air Missile (AMRAAM/AIM-120D)

The Fiscal Year 2017 President's Budget requests \$40.4 million in RDT&E,N for continued software capability enhancements and \$204.7 million in WPN for 163 All-Up-Rounds and associated missile-related hardware. AMRAAM is a joint USAF and DoN weapon that counters existing aircraft and cruise-missile threats. It uses advanced counter-electronic attack capabilities at both high and low altitudes, and can engage targets from both beyond visual range and within visual range. AMRAAM provides an air-to-air first look, first shot, first kill capability, while working within a networked environment in support of the Navy's Theater Air and Missile Defense Mission Area. RDT&E,N will be applied toward software upgrades to counter emerging Electronic Attack threats for AIM-120C/D missiles.

Small Diameter Bomb II (SDB II)

The Fiscal Year 2017 President's Budget requests \$97.6 million in RDT&E,N for continued development of the USAF-led Joint Service SDB II weapon and Joint Miniature Munitions Bomb Rack Unit (JMM BRU) programs. Using multi-mode seeker and two-way data-link capabilities, SDB II provides an adverse weather, day or night standoff capability against mobile, moving, and fixed targets, and enables target prosecution while minimizing collateral damage. SDB II will be integrated into the internal carriage of both DoN variants of the Joint Strike Fighter (F-35B/F-35C) and

Navy's F/A-18E/F. The JMM BRU (BRU-61A/A) is being developed to meet the operational and environmental integration requirements for internal bay carriage of the SDB II in the F-35B/F-35C, and external carriage on F/A-18E/F. JMM BRU completed Milestone B and entered Engineering Manufacturing Development in August 2015. Both SDB II and JMM BRU will use a Universal Armament Interface architecture to enable more efficient/less costly future weapon/platform integration.

Advanced Anti-Radiation Guided Missile (AARGM) & AARGM Extended Range

The Fiscal Year 2017 President's Budget requests \$4.2 million of RDT&E,N for Block 1 follow-on development and test program, \$43.1 million of RDT&E,N for AARGM Extended Range (AARGM-ER) development, and \$178.2 million of WPN for production of 253 All-Up-Rounds and Captive Training Missiles. The AARGM cooperative program with the Italian Air Force transforms the High-Speed Anti-Radiation Missile (HARM) into an affordable, lethal, and flexible time-sensitive strike weapon system for conducting Destruction of Enemy Air Defense missions. AARGM adds multi-spectral targeting capability and targeting geospecificity to its supersonic fly-out to destroy sophisticated enemy air defenses and expands upon the HARM target set. The program achieved IOC on the F/A-18C/D aircraft in July 2012, with forward deployment to PACOM; integration is complete for AARGM with release of H-8 System Configuration Set for F/A-18E/F and EA-18G aircraft. The AARGM-ER modification program, involving hardware and software improvements, began in Fiscal Year 2016. This effort will increase the weapon system's survivability against complex and emerging threat systems and affords greater stand-off range for the launch platform. AARGM-ER will be designed to fit internally to both F-35A and F-35C, thereby increasing the capability and lethality of the Lightning II weapon system.

Joint Air-to-Ground Missile (JAGM)

The Fiscal Year 2017 President's Budget requests \$17.9 million in RDT&E,N to continue a five year integration effort of JAGM Increment 1 onto the Marine Corps AH-

1Z and \$26.2 million in WPN for production of 96 All-Up-Rounds. JAGM is a Department of the Army-led, joint ACAT-1D Major Defense Acquisition Program. JAGM is a direct attack/close-air-support missile program that will utilize advanced seeker technology to provide fire-and-forget, simultaneous target engagement against land and maritime targets. JAGM will replace the HELLFIRE and TOW II missile systems for the DoN. In November 2012, the Joint Chiefs of Staff authorized the JAGM incremental requirements and revalidated the DoN's AH-1Z Cobra aircraft as a threshold platform. JAGM Increment 1 achieved Milestone B approval in Fiscal Year 2015, a Milestone C (LRIP) is planned for the Fiscal Year 2017 and AH-1Z Cobra/JAGM IOC is planned for Fiscal Year 2019.

Advanced Precision Kill Weapon System II (APKWS II)

The Fiscal Year 2017 President's Budget requests \$36.7 million in Procurement of Ammunition, Navy and Marine Corps (PANMC) for procurement of 1,060 APKWS II Precision Guidance Kits. APKWS II provides an unprecedented precision guidance capability to DoN unguided rocket inventories, improving accuracy and minimizing collateral damage. Program production continues on schedule, meeting the needs of our warfighters in today's theaters of operations. Marine Corps AH-1W and UH-1Y achieved IOC in March 2012 and the Marine Corps AH-1Z platform was certified to fire APKWS II in June 2015. These platforms have expended more than 190 APKWS II weapons in combat thus far. The Navy successfully integrated APKWS II on the MH-60S for an Early Operational Capability in March 2014 and fielded a similar effort on the MH-60R in March 2015. A variant of APKWS II has been integrated onto the AV-8B and F-16 aircraft, and has been fielded in support of Operation INHERENT RESOLVE.

Direct Attack Weapons and General Purpose Bombs

The Fiscal Year 2017 President's Budget requests \$91.7 million in PANMC and \$40.4 million in OCO for Direct Attack Weapons and General Purpose bombs to include the Joint Direct Attack Munition (JDAM). In eighteen months of OPERATION

INHERENT RESOLVE, DoN aircraft have expended more than three times the number of 500lb JDAM kits than we have procured during the same period. This significant warfighter demand has forced the Navy to reduce the number of 500lb JDAM available for training in order to preserve warfighting inventory. The OCO request for Fiscal Year 2017 replaces the ordnance expended in the first six months of 2015. While OCO replenishment is helpful, it does not overcome the remainder of the year's expenditures which will continue to exacerbate the current inventory shortfall. Fully funding the General Purpose Bomb line item is critical to sustaining the DoN's inventory for ongoing combat operations and replenishing it for future contingencies.

CONCLUSION

The Department of the Navy continues to instill affordability, strive for stability, and maintain capacity to advance capabilities and meet mission requirements. We remain an agile strike and amphibious power projection force in readiness, and such agility requires that the aviation arm of our naval strike and expeditionary forces remain strong. Mr. Chairman, and distinguished committee members, we request your continued support for the Department's Fiscal Year 2017 budget request for our Naval Aviation programs.