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THE HOUSE ARMED SERVICES COMMITTEE
SUBCOMMITTEE ON TACTICAL AVIATION AND LAND FORCES

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BEFORE THE

TACTICAL AIR AND LAND FORCES SUBCOMMITTEE OF THE

HOUSE ARMED SERVICES COMMITTEE

ON

DEPARTMENT OF THE NAVY FISCAL YEAR 2024 BUDGET REQUEST FOR TACTICAL AVIATION

MARCH 29, 2023

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SUBCOMMITTEE ON TACTICAL AVIATION AND LAND FORCES

Chairman Wittman, Ranking Member Norcross and distinguished members of the Subcommittee, thank you for the opportunity to appear before you today to address the Department of Navy's (DON) Fiscal Year (FY) 2024 budget request for Tactical Aviation (TACAIR) programs. A superior TACAIR force remains the key component of a dominant naval force in ensuring open and free sea lanes, deterring conflict, and if necessary, decisively winning the high-end fight. Thank you to the Congress and this Committee for your continued support of these programs in the FY 2023 Authorization and Appropriation Acts.

The security of our country and preservation of our national interests remains reliant on a superior naval force, strategically postured to adapt to constantly evolving geopolitical challenges and threats. As ongoing aggressive action by Chinese and Russian militaries continue to threaten global peace and stability, the Navy and Marine Corps team must continue to provide unmatched tactical aviation capability to best support the regional Combatant Commanders in countering these and other threats, as well as respond to any global crisis. The Navy and Marine Corps continue to lead Joint and Coalition forces in global integrated deterrence, and remain postured to adapt to emerging threats as demand for our naval capabilities continues to increase. In order to maintain the maritime dominance of the Joint Force, the DON continues to invest in the modernization of our existing capabilities, as well as in the rapid innovation and streamlined acquisition of future capabilities, as guided by our force design initiatives.

The Department has made great strides in recapitalizing Naval aviation. Last year we delivered 91 new aircraft for the Navy and Marine Corps team, including F/A-18E/F production and ongoing procurement and fleet integration of F-35, E-2D, V-22, P-8, H-1, CH-53K, VH-92A, and unmanned aircraft MQ-4C, MQ-9A and MQ-25. Naval Aviation is now predominantly comprised of new airframes, made possible through a deliberate strategy of evolutionary, controlled technical risk development programs. We have succeeded in overcoming the increased challenges presented by a stressed industrial base and supply chain still recovering from the impacts of COVID and inflation, while driving affordability and maintaining accountability to the taxpayer. Our next challenge is to continue to advance the capabilities of these platforms and to enhance the lessons learned in sustainment and modernization. Innovative approaches, such as the Department's Performance-to-Plan (P2P) and Naval Sustainment System-Aviation (NSS-A), have continued to evolve in successfully driving costs out and improving readiness. Every Type/Model/Series aircraft that has gone through NSS-A has increased its readiness numbers, and

we expect these initiatives will result in recurring gains over the Future Years Defense Program (FYDP).

While we continue to emphasize all critical aspects of delivered systems, including affordability, availability and safety, our efforts remain focused on delivering timely capability to the Fleet and Fleet Marine Force. In January 2023, the F-35 Program executed its first flight in the Technology Refresh (TR)-3 configuration and are working through the test execution to meet Lot 15 deliveries. TR-3 is the foundation for the modernization efforts in Block 4 that will establish the warfighter capabilities required to successfully counter adversaries. In a continued effort to increase capabilities of our 4th and 5th generation aircraft, we invested in research and development of advanced sensor and Electronic Warfare (EW) capabilities, such as Next Generation Jammer (NGJ), that will increase capability against radar, communications and non-traditional EW targets and began test and integration of the production version of Infrared Search and Track (IRST) Block II which provides the Air Wing a beyond visual range Radio Frequency-denied Air-to-Air Kill Chain.

The Department continues in its evolution towards the Air Wing of the Future (AWOTF). In January and February 2022, two F-35C squadrons, VFA-147 onboard USS Carl Vinson and VMFA-314 onboard USS Abraham Lincoln, were deployed, trained, and operated together in the INDOPACOM AOR, marking the first time the DON deployed two F-35C squadrons concurrently. For the Marine Corps, VMFA-122 and VMFA-242 are currently executing the USMC's 13th and 14th deployment of the Joint Strike Fighter. VMFA-122 is currently deployed in support of the 13th Marine Expeditionary Unit (MEU) with ten F-35B aircraft, which constitutes an entire squadron's worth of 5th Generation fighters. Additionally, VMFA-242 is deployed in support of the 31st MEU as part of the Marine Corps' continued support of Forward Deployed Naval Force efforts in the Indo-Pacific Command (INDOPACOM) Area of Responsibility. In March 2023, VFA-97 will receive its final aircraft to become the first F-35C squadron to achieve 14 Primary Aircraft Assigned. The F-35C Fleet Replacement Squadron, VFA-125, will also increase its aircraft inventory by eight additional aircraft in 2023, enhancing pilot throughput. The Marine Corps TACAIR transition plan is continuing to progress and stay on timeline with VMFA-542 standing-up at Marine Corps Air Station (MCAS) Cherry Point, NC, marking the transition of the service's seventh F-35B squadron. VMFA-311 will stand up later this summer at MCAS Miramar, CA, as the service's second F-35C squadron.

The Fiscal Year 2024 President's Budget Request

The President's FY 2024 budget provides the resources necessary to continue to implement the 2022 National Defense Strategy and build and sustain the right mix of capabilities to keep sea lanes open and free, deter conflict, and defend against current and future threats. In alignment with the Secretary of the Navy's priorities, the budget request enables the One Navy-Marine Corps Team to continue strengthening our maritime dominance, building on our culture of warfighting excellence, and enhancing our strategic partnerships.

The Department requests $17.3 billion in FY 2024 to support procurement of 88 aircraft, modification, spares and support equipment. The budget requests funding for 63 fixed wing aircraft including 15 Navy and four Marine Corps F-35C carrier variants, 16 F-35B Short Takeoff and Vertical Landing variants, two Marine Corps KC-130Js and 26 T-54A multi-engine training system aircraft. Additional unmanned aircraft procurements include two MQ-4C Unmanned Aircraft in FY 2024, five MQ-9A, and three carrier-capable MQ-25 aircraft. Rotary wing investments include fifteen CH-53Ks.

The F/A-18E/F Super Hornet will remain the predominant component of the Carrier Air Wing (CVW) into the 2030s. The Service Life Modification (SLM) effort and capability upgrades will maintain the tactical superiority of the F/A-18 E/F and mitigate the Navy's Strike Fighter Shortfall. The ongoing efforts, underway at both industry sites and Fleet Readiness Centers (FRCs), will increase Super Hornets service life from 6,000 to 7,500 hours. Future SLM will bring the aircraft up to a Block III configuration, increasing service life to 10,000 hours, and significantly enhancing lethality and survivability via on-board and shared high-fidelity sensor data, and improved aircrew tactical decision aids.

The budget request maximizes CVW and Amphibious Ready Group/Marine Expeditionary Unit (ARG/MEU) lethality with capability improvements to 4th and 5th generation fighters. Additionally, the budget request balances 5th Generation capacity both through aircraft procurement and modernization investments. Continued congressional support of the F-35 Block 4 modernization efforts (Block 4 modification kits) will ensure lower Lot aircraft are rapidly modified to the necessary TR-3 / Block 4 configuration. These efforts complement planned TR-3 / Block 4 production aircraft and ensure the DON Fleet has this vital capability in the necessary capacity. In addition to the mission systems and weapons integration modernization efforts with TR-3 and Block 4, the FY 2024 budget includes significant development efforts for the Air System

modernization efforts to include Engine Core Upgrades (ECU) and Power and Thermal Management Systems Modernization to reduce long-term sustainment costs and to support improved lethality.

Munitions are a critical national priority. The ongoing support to Ukraine has highlighted the importance of a resilient munitions industrial base and the need to improve capacity and replenishment throughput as we prepare for potential contingencies in the Pacific. The FY 2024 budget request maximizes funding for weapons procurement, prioritizing funding for munitions development, production and recertification. Recertification funding will ensure sufficient Tomahawk stockpiles for the next decade and beyond. This budget makes full use of the authorities granted in the FY2023 National Defense Authorization Act (NDAA) to streamline Multiyear procurement (MYP) contracts for critical munitions in order to generate Economic Order Quantity (EOQ) savings, stabilize the demand signal to the industrial base, and enable the Department to respond quickly to future contingencies.

Summary

The Navy and Marine Corps teams continue to meet challenges head on -- on the sea, under the sea, and in the air, in every clime and place every single day. With Congress' support, we will provide the Nation with the combat-credible, Dominant naval force to keep the sea lanes open and free, deter conflict, and when called upon, decisively win our Nation's wars.

Programmatic details regarding Navy and Marine Corps capabilities are summarized in the following section.

U.S. NAVY AND MARINE CORPS TACTICAL AVIATION CAPABILITIES

TACTICAL AVIATION

Carrier Air Wing (CVW)

The striking power of the CVW remains the cornerstone of the Navy's power projection capability from 11 of the world's most survivable airfields, our aircraft carriers (CVNs). The modernization of the air wing, and weapons, keeps the aircraft carrier relevant through the carrier's 50 year service life. Today's Air Wing is transitioning to a mixture of 4th and 5th Generation strike fighter aircraft that continue to incorporate advanced capabilities to support the objectives of the National Defense Strategy (NDS). The F-35C is replacing the early lot F/A-18E/Fs. E-2Ds, with an advanced airborne radar, networking, and aerial refueling capability are replacing the legacy E-2C. The CMV-22B is replacing legacy C-2As in support of strike group logistics, and NGJ pods will replace the legacy ALQ-99 pods on the EA-18G and provide full spectrum integrated non-kinetic effects.

The DON has submitted a legislative proposal to remove the Title 10 requirement to stand up a 10th CVW by October 1, 2025. The current CVN maintenance schedule efficiently pairs nine CVWs to nine operational CVNs according to ship availability; 11 total CVNs with two under maintenance protocols. The Navy prioritizes investments in AWOTF instead of constituting a 10th CVW ahead of need.

The Air Wing of the Future

The Air Wing of the Future (AWOTF) refers to the composition of the CVW as it on-ramps advanced capabilities and capacity, measured at key milestones in the near, mid, and long term. The CVW will adapt and transform from an all "manned" to a teamed "manned-unmanned" force structure over the next two decades. When discussing the AWOTF, a time horizon may be included to specify the force composition at that time.

In the near-term, the AWOTF achieves a mix of F-35C Lightning II, F/A-18E/F Block III strike fighters, and EA-18G Growlers, and introduces the MQ-25 Unmanned Air Vehicles (UAV). The MQ-25 will take over the aerial refueling mission, extending strike range, enhancing maneuverability, and enabling all strike fighters to focus on the high-end fight. In the mid and long term, the AWOTF will deliver game-changing lethality and survivability through the Next Generation Air Dominance (NGAD) Family of Systems (FoS).

Marine Expeditionary Unit (MEU) Aviation Combat Element

The MEU is the embodiment of the Marine Air-Ground Task Force (MAGTF) as a self-contained, forward-deployed response force. The MEU is a lethal, forward-deployed, sea-based, expeditionary force that can operate across the range of military operations with a tailorable and uniquely suited complement of aircraft including the F-35B, MV-22B, H-1, and CH-53K. The F-35B is the only 5th Generation platform designed to operate aboard amphibious ships and expeditionary landing fields. The F-35B is a vital part of Force Design and a key enabler for the Stand-In Force and the Joint Force providing commanders with strategic agility, enhanced situational awareness, and greater freedom of maneuver in a highly contested environment. Marine Corps F-35C aircraft will deploy in support of CVW efforts as part of the service's continued commitment to TACAIR integration with USN. F-35C aircraft will also deploy in support of the Unit Deployment Program along with F-35B aircraft supporting future forward deployed naval forces efforts.

Next Generation Air Dominance (NGAD)

The NGAD FoS is comprised of manned and unmanned tactical platforms, advanced weapons, sensors and networks to attain and maintain air superiority. F/A-XX is the strike fighter component of the NGAD FoS, orchestrating Manned Unmanned-Teaming (MUM-T) at the leading edge of the battlespace. The F/A-XX concept refinement and design maturation efforts remain on track and continue to assess potential capabilities and technologies at all levels of classification up to and including special access required. Iterative collaboration between government and industry teams has led to the development of vendor concepts that balance advanced air dominance capabilities and long-term affordability. F/A-XX is the designated replacement for the F/A-18E/F. Included in the unmanned tactical platforms for the NGAD FoS are the family of Collaborative Combat Aircraft (CCAs). Navy and Marine CCAs will augment current and next generation crewed platforms with multiple lower cost, complementary capabilities to increase combat effectiveness in highly contested environments. Inside the NGAD, the Marine Corps is teaming with the Navy to develop its MAGTF Unmanned Expeditionary (MUX) FoS. These efforts include acceleration of prototyping and experimentation of the MUX FoS, including MUX TACAIR CCA and an MQ-9A replacement. In addition to the MUX FoS roadmap, the

Marine Corps is planning for studies to map out TACAIR 6th Generation capabilities that best complement the service as a Joint Force enabler.

Strike Fighter Inventory Management (SFIM)

Strike Fighter Inventory Management (SFIM) is the process the DON uses to manage the capacity and capability required to support the CVWs. SFIM is dependent on three critical and independent factors: depot maintenance ability to sustain the fleet; new procurement to replace or extend end-of-service life aircraft; and utilization rates required for force generation. The Department has appropriate levers in place to manage the strike fighter inventory through the combination of F-35C procurement and SLM of F/A-18E/F Block II aircraft. While the gap is not eliminated, these tools allow the DON to meet current Global Force Management requirements, ensuring the necessary capability is available for the future conflicts, and managing overall strike fighter inventory.

In FY 2022, the DON continued investments in industrial equipment assets for the FRCs, where intermediate and depot aviation maintenance is performed. Over the last four years, the Navy has acquired more than 230 assets with modern interfaces and globally recognized standards to address aging, inefficient and unreliable industrial equipment. In addition, Naval Aviation Maintenance Centers of Excellence are preparing aircraft designated for SLM in order to reduce cost and schedule on the SLM lines and return long-term down aircraft to the fleet.

SLM has two phases. Phase 1 is 'SLM specification' (commenced 2018) and extended F/A-18E/F service life from 6,000 to 7,500 flight hours. The planned 'crawl' and 'walk' phases of SLM specification continued through Q4FY2022. Phase 2 is 'Full kit SLM' and commenced Q1FY2023, which extends the airframe to 10,000 flight hours along with incorporating Block III capability upgrades, essentially matching Block III production aircraft minus select survivability enhancements. SLM inductions will continue across FYDP and are estimated to cost less than 1/3 of the price of a new procurement aircraft, while providing similar capabilities. SLM has delivered 35 F/A-18E/F as of March 9, 2023. Currently 136 planned SLM inductions across the FYDP. Those aircraft inducted into SLM in FY 2023 will start to deliver Q3FY2024.

Pilot and Aircrew Shortfalls and Mitigation Strategies

The Navy and Marine Corps are investing in talent management and producing more capable Sailors and Marines while increasing our ability to attract and retain the most talented individuals across the Force. For Naval Aviation, we continue to meet all fleet requirements and are evaluating and analyzing diversity, equity, and inclusion within the Naval Aviation Enterprise. This analysis has informed our lines of effort for broadening recruitment and outreach efforts to attract underrepresented talent, as well as focusing on retention efforts to ensure the Department retains those with the qualifications needed. The DON continues to focus on retention, merit-based bonuses and incentive pay, as well as non-monetary incentives, to keep talented aviators across different levels of rank. We narrowly focus our bonuses and special pays based on specific community shortages, critical skills, and retention goals. The Department expects competition for talent with industry will continue, requiring a robust and competitive compensation program to recruit, retain, and distribute the force.

F-35 Joint Strike Fighter

The F-35 is the cornerstone of the future fighter fleet and plays a critical role in the Navy and Marine Corps' future Distributed Maritime Operations and Expeditionary Advanced Base Operations (EABO) warfighting concepts, providing a lethal and survivable strike and sensor platform. Ship and land-based F-35Bs and F-35Cs will continue to be the backbone of the DON air combat superiority complimenting MAGTF and strike group commanders with a dominant, multirole, 5th generation aircraft capable of projecting U.S. power, keeping pace with threats in contested scenarios, and deterring potential adversaries.

The Marine Corps Program of Record (POR) for F-35 is 420. Marine Aviation remains fully committed to the F-35 and is continuing with the transition to an all-F35 5th Generation TACAIR force, in line with Commandant's Force Design guidance. The Force Design TACAIR Transition Plans call for a Primary Aircraft Authorization (PAA) for 18 squadrons of 10 aircraft which supports all MEU, Unit Deployment Program, Tactical Aviation Integration, and Combatant Command (COCOM) Global Force Management requirements at a 1:3 deployment to dwell. Combining the PAA, Backup Aircraft Authorization, and Attrition numbers for 18 squadrons of 10 aircraft equates to a POR of 425. The risk associated with 420 vice 425 is assessed as low-risk and manageable. This 10 aircraft squadron construct allows the Marine Corps to deploy 10 F-35Bs

aboard our MEUs compared to the traditional six AV-8B ACE contingent; offering the COCOMs a 66 percent increase in TACAIR – 5th Generation aircraft – with our MEUs time now.

The Marine Corps has already established two Fleet Replacement Training Squadrons, one operational test squadron, and seven operational line squadrons deploying regularly with two additional line squadron activations occurring this summer. Building on relationships strengthened during the service's partnership with the United Kingdom aboard HMS *Queen Elizabeth* and with Japan aboard JS *Izumo*, the Marine Corps continues to work with our allies to enhance flexibility and lethality through operations from multiple allied partner ships.

The Navy has established one Fleet Replacement Training Squadron, one operational test squadron, one developmental test squadron, two operational squadrons, and assigned F-35Cs to the Naval Aviation Warfare Development Center (TOPGUN). TOPGUN will have six F-35Cs by the end of 2023 to support 4th and 5th generation Fighter integration training events. Through current operations around the globe, we continue to prove the F-35's unprecedented and unmatched capabilities.

First flight in a TR-3 configuration happened earlier this year and is the foundation for the modernization efforts in Block 4. F-35 modernization is essential to remaining relevant in the near-peer adversary environment and vital to maintaining air dominance. Air systems modernization is also underway to support the mission systems modernization and weapons system integration efforts. The recent F-35 Joint Program Office Business Case Analysis provided critical insight to the Services for options to address life cycle costs, affordability concerns, and Air Systems performance. The F135 propulsion system replacement, the Engine Core Upgrade (ECU) program, provides a common solution for all F-35 variants to restore engine life and prevent degradation at a lower cost. As a result, both DON and the Air Force have made significant ECU and Power and Thermal Management Systems Modernization development investments in the PB24 request to help ensure significant capability enhancements will continue to be viable for the platform while also reducing lifetime sustainment costs. Delivering these transformational capabilities to front-line forces as soon as possible remains a top priority of Naval Aviation. The DON is invested in rebuilding capacity for Developmental Test (DT) Flight Science (FS) testing which will not only support ECU DT efforts, but also necessary critical future capability enhancements. The Marine Corps is committed to ensuring required capacity for both

ECU and other capability testing will be available through support of a second F-35B FS aircraft in addition to the Lot-18 F-35B FS aircraft currently planned.

The DON remains committed to reducing F-35 costs for both production and sustainment as well as improving mission readiness. The recent Lot 15-17 production contract awarded to Lockheed Martin pushed production to near full rate production numbers to achieve greater cost savings. To get after readiness concerns, the DON has incorporated the F-35 into the NSS-A ecosystem; through the involvement of the Fleet's Maintenance Operations Cell (MOC)/ Aircraft on Ground (AOG) with PEO-JSF Lightning Sustainment Center, coordination of unit prioritization and allocation of DON resources across DON aircraft has helped reduce aircraft turnaround times and improve readiness. The F-35 program is additionally moving towards a supply chain, demand-reduction Performance Based Logistics (PBL) contract at the end of 2023 to prioritize availability and affordability outcomes across the F-35 enterprise. In response to recent congressional direction, the DON is also working with the program office to assume greater management, planning and execution roles of the F-35 sustainment functions which have the potential to further reduce sustainment costs.

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

Service Life Extension Program (SLEP), High Flight Hour (HFH), and Center Barrel Replacement (CBR+) efforts extend the F/A-18C/D beyond its original service life of 6,000 hours, to 8,000 hours. Additional Service Life Extension Authorizations extend service life to 9,000 hours, and up to 10,000 hours for select aircraft. Thirteen aircraft were inducted for HFH and/or CBR+ and included SLEP modifications in FY 2022, with 19 aircraft planned for delivery in FY 2023. Along with flight hour extensions, these aircraft require capability upgrades to their radars, radios, electronic warfare suites, software and avionics systems to maintain lethality, survivability, and availability to meet the documented Marine Corps requirement for tactical aircraft that can support the NDS and National Military Strategy through 2030. It also includes the implementation of the Automated Ground Collision Avoidance System (Auto-GCAS) to mitigate Controlled Flight into Terrain (CFIT) and has consistently been a top platform safety priority in Naval Aviation Readiness Groups, Operational Advisory Groups and the Systems Safety Working Groups. Embedded National Tactical Receiver will be installed in these aircraft that will enable them to receive Integrated Broadcast Service. This service provides beyond line of sight reception of

intelligence information. These capability requirements enable the Marine Corps to operate the F/A-18C/D through FY 2030 while supporting the TACAIR transition to F-35B/C. Overall readiness and sustainment of the F/A-18C/D platform provided an average mission capable rate of 65 percent in calendar year 2021, 67 percent in calendar year 2022 and 64 percent in calendar year 2023 to date.

The FY 2024 President's Budget requests $185.7 million in APN for F/A-18C/D. This includes funding to implement aircraft commonality programs, improve reliability, and ensure structural safety of the F/A-18C/D inventory, and funds the continuation of Hornet capability enhancements.

F/A-18E/F Super Hornet

The F/A-18E/F Super Hornet is a 4th Gen multi-mission aircraft serving as the predominant strike-fighter in the CVW into the mid-2030s. The final two years of the F/A-18E/F MYP IV Contract will deliver 68 new procurement F/A-18E/F Block III, raising the total of new production Block III Super Hornets to 98.The final new production F/A-18E/F Block III is expected to deliver in Q4FY2025. A contract modification for up to 20 additional production aircraft is currently being negotiated to reflect FY 2022 and FY 2023 appropriated aircraft.

In tandem with these Block III deliveries, SLM initiatives and capability upgrades enhance our inventory by maintaining the tactical relevance of the F/A-18 E/F. IRST Block II, is in flight testing and on track to declare Initial Operating Capability (IOC) in FY 2024, bringing critical out-of-band detection and weapon-quality-track capability against advanced air threats. Super Hornet continues to integrate new capability in support of Long Range Fires, to include Beyond Line of Sight communications, and to mature technology, including Open Mission Systems architecture and MUM-T, in support of NGAD and the AWOTF.

The FY 2024 President’s Budget requests $98.8 million of APN for installation costs associated with the delivery of F/A-18 E/F/G aircraft. Additionally, the budget requests $1.3 billion of APN for F/A-18 E/F and EA-18G Modernization and Sustainment, IRST, and F/A-18 Series. Finally, the FY 2024 budget requests $332.1 million of RDT&E for improvements, radar upgrades and advanced aircraft system capabilities.

AV-8B Harrier

The AV-8B Harrier program is also a critical component of the Marine Corps' transition to F-35B. The platform has completed critical efforts to enhance flight safety, increase readiness and improve supply chain asset management. The program executed development of final fit capabilities including Sidewinder Air-Intercept Missile (AIM-9X) integration, expanded Joint Standoff Weapon (JSOW) and Joint Direct Attack Munition (JDAM) capabilities, and enhanced Link-16 functionality. These functionalities enable platform relevancy in combat deployments and are preparing the platform for continued MEU support through 2028.

The FY 2024 budget request continues a time-phased budget transition from investment accounts toward Operations and Maintenance to support platform sustainment during sundown. $8.3 million in RDT&E funds continue design, development, integration, and test of Operational Flight Program upgrades, weapons integration improvements, flight test requirements, and safety and reliability improvements to the airframe and engine and to mitigate obsolescence issues. $22.8 million in APN continues the incorporation of Obsolescence Replacement/Readiness Management Plan systems, electrical and structural enhancements, LITENING Pod upgrades, engine safety, digital interoperability updates that include Link-16 systems, and inventory sustainment upgrade efforts to offset obsolescence and attrition.

AIRBORNE ELECTRONIC ATTACK (AEA)

EA-18G Growler

The EA-18G Growler is a critical enabler for the Joint force, bringing fully netted electronic warfare capabilities to the fight and providing essential capabilities in the Electromagnetic Maneuver Warfare environment. Along with the electronic attack suite, the Growler also features the APG-79 Active Electronically Scanned Array radar. Growler integrates the latest electronic attack technology, including the ALQ-218 receiver, jamming pods, communication countermeasures, and satellite communications. The Growler Capability Modification (GCM) Program, the first major effort to upgrade EA-18G capabilities in the history of the program, commenced at Naval Air Station Whidbey Island, Washington, in March 2021. The GCM completed first squadron stand up in February 2022.

Growler Block 2 (GB2) will deliver capabilities to the warfighter to detect, locate, identify and counter advance Integrated Air Defense Systems and Complex Emitters. GB2 will utilize a

phased approach for spiral development of AEA capabilities to modernize processing, sensors and aircrew decision aids to maintain dominance in the modern electromagnetic spectrum. Phase 1 will include an upgraded Next Generation Electronic Attack Unit with Open Mission Systems architecture, Multi-Level Security and incorporation of the Reactive Electronic Attack Measures capability. Phase 2 is the addition of the Beowulf advanced multi-function array into the inboard leading edge flaps of the aircraft, augmenting the ALQ-218 functionality and capability. GB2 serves as a critical technology development and risk reduction effort to support Naval Aviation's Air Wing of the Future.

Next Generation Jammer (NGJ)

NGJ is the next generation electronic warfare capability to counter the evolving threat. NGJ pods replace the legacy ALQ-99 pods on the EA-18G and provide full spectrum integrated non-kinetic effects. The delivery of NGJ increases EA-18G Growlers lethality and capability against radar, communications, and non-traditional EW targets utilizing advanced Airborne Electronic Attack (AEA) techniques while providing improved reliability and maintainability. NGJ is phased by threat, with initial focus on Mid-Band (MB), followed by Low-Band (LB).

NGJ-MB is a cooperative development and production program with Australia, with IOC scheduled in 4QFY23. Delivery of the six production representative System Demonstration Test Articles (SDTAs) began in July 2022, with 5 of 6 SDTA's delivered as of February 2023 and the 6th to be delivered the end of March 2023. These Test Articles will be used to support the completion of Developmental Test and the entirety of Operational Test (OT). OT is currently on track to start spring 2023, with a focus on the completion of aeromechanical and mission systems flight test. The FY 2024 budget includes $40.5 million in RDT&E funding to complete the Verification of Correction of Deficiencies (VCD) of the baseline NGJ-MB program, and begin development of the NGJ-MB Extended (MBX) Engineering Change Proposal (ECP) to extend the upper frequency range coverage limit of the system to counter modern and adaptive threats. The FY 2024 budget request also includes $426.4 million in APN funding for nine Full Rate Production I shipsets, associated support equipment, training equipment and production support. Three LRIP I shipsets are scheduled to begin delivery 4QFY23.

NGJ-LB is a critical AEA capability to augment and replace the legacy ALQ-99 Tactical Jamming System on the EA-18G in the low frequency bands not covered by MB, and is a

cooperative development program with Australia. The FY 2024 budget request $250.6 million RDT&E for NGJ-LB to focus on pod design, advanced capabilities development, and the build of aeromechanical and mission systems test pods to support ground and flight testing.

WEAPONS PROGRAMS

The Department continues to pursue a wider, more systematic approach towards delivering offensive weapons. Efforts to preserve the readiness and capacity of our key strike weapons inventories, pursue strike weapon capability enhancements, and develop next-generation missile capabilities to address emerging threats will increase overall force effectiveness. The President's FY 2024 budget requests $6.9 billion for the Weapons Procurement account. This level of funding represents a significant increase over FY 2023, allowing for continued modernization of our weapons inventory with critical capabilities to enhance warfighter readiness, as well as significant investment in production capacity to increase critical munitions inventories.

Munitions Inventory and Industrial Base

The DON is working closely with industry to expedite replenishment of stocks provided to Ukraine, engaging with industry partners to understand the barriers to accelerating production and determine how and where the Department can make strategic investments to improve inventory, capability, and capacity. The Department is investing in the industrial base to expand and accelerate production throughput, streamline testing, and strengthen critical component suppliers. Simultaneously, the Department is placing investments into recertification as a cost-effective way to improve near-term inventories. Coupled with the ongoing replenishment of DON stocks, these investments into the munitions industrial base send the demand signal that building munitions inventories is a top priority.

The Department is leveraging the authorities granted in the FY 2023 National Defense Authorization Act to pursue MYP contracts for critical munitions programs such as Standard Missile-6 (SM-6), and Naval Strike Missile (NSM). MYP contracts for Advanced Medium-Range Air-to-Air Missile (AMRAAM) and LRASM will be joint efforts with the USAF. The strategy allows the Department to use savings generated through the use of EOQ financing to procure additional lots of missiles under a Buy-to-Budget concept, to further improve efficiencies and yields.

Offensive Anti-Surface Warfare (OASuW) Increment 1/ Long Range Anti-Ship Missile (LRASM), LRASM C-1/C-3, and OASuW Increment 2 / HALO

The FY 2024 President's Budget requests $639.6 million to initiate MYP with the USAF. The FY 2024 procurement funding covers the EOQ materials along with the buy of 91 DON LRASM weapon systems in the initial year of the five year MYP. The FY 2024 President's Budget request also includes RDT&E funding for the completion of the LRASM 1.1 capability improvements.

The LRASM C-1 and C-3 variants add near term, cost effective capacity to the DON's long range strike capability while enhancing the OASuW mission. The FY 2024 budget requests funding for Navy strike mission integration and employment by upgrading the existing AGM-158 product to respond to rapidly changing threats. Navy AGM-158 development efforts also involve development and integration of a Beyond Line of Sight radio subsystem to enable dual mission capability and enhanced operational flexibility, optimizing carrier magazine capacity to complement OASuW warfighting capability. The FY 2024 President's Budget requests $141.9 million to continue developing AGM-158 derived capability and radio integration on F/A-18; develop software for strike mission planning, Universal Armament Interface (UAI) and missile Operational Flight Plan (OFP). The FY 2024 President's Budget request also includes $83.7 million for procurement of the initial 10 LRASM in the C-3 configuration.

The FY 2024 President's Budget includes $95.8 million in support of OASuW Increment 2, which is now referred as Hypersonic Air Launched OASuW (HALO). HALO supports the national imperative to mature hypersonic capabilities. The program represents a longer-term capability that encompasses increased performance and will provide the Navy a necessary air launched, carrier based weapon to address evolving long range high speed threats from near peer competitors. In order to deliver this capability to the warfighter when needed, the DON will collaborate heavily with the Air Force.

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

AARGM domestic procurement completed in FY 2021 with the award of the last DON Full Rate Production (FRP) contract. There have been 1450 AARGMs (All Up Rounds, Training Missiles, and Spares) delivered to the Fleet as of March 2023. Program of record delivery is 1803

missiles. Deliveries continue through FY 2024 in support of the transition to AARGM-ER. AARGM-ER provides the DON with a 5th generation compatible extended range asset to project power and provide Suppression of Enemy Air Defenses, both at-sea and on land. The first AARGM-ER delivery is scheduled for 4QFY23. The FY 2024 President's Budget requests $51.8 million in RDT&E to support operational and Integration testing of production representative hardware. The budget requests $195.7 million in Weapons Procurement, Navy (WPN) to procure 77 AARGM-ER all-up-rounds and six Captive Air Training Missiles.

Sidewinder Air-Intercept Missile (AIM-9X)

The AIM-9X (Sidewinder) missile is a datalink-enabled, launch and leave, air combat munition that uses passive Infrared energy to acquire and track enemy air targets. The FY 2024 budget requests $36.4 million in RDT&E that will be applied to development of hardware and software to maintain required performance against evolving threat countermeasures. The budget also includes $78.2 million in WPN funding to procure a combined 147 All-Up-Rounds and Captive Air Training Missiles and associated missile/trainer related hardware.

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

The AMRAAM program provides for the acquisition and upgrade of the Department's only advanced all-weather, all-environment medium range air-to-air missile system. AMRAAM is a joint program with the U.S. Air Force, which also supports the North Atlantic Treaty Organization, and 43 allied countries' operational requirements while also providing for a more lethal naval fighting force and continued maritime dominance through power projection.

The FY 2024 budget request maximizes AMRAAM production capacity and completes USN procurement requirements within the FYDP. The program is working with the Department of Defense to layout a MYP strategy under the Large Lot Procurement concept with the USAF as the lead. The FY 2024 budget includes $29.2 million in RDT&E that will be applied toward continued software capability enhancements to counter emerging threats; and test and evaluation activities that support fleet release of System Improvement Program efforts. The budget also includes $439.2 million in WPN funding to procure 374 all-up-rounds and associated missile/trainer related hardware. AMRAAM WPN and RDT&E funding directly supports the

Pacific Deterrence Initiative by increasing joint force lethality through increased missile inventory and weapon effectiveness.

Small Diameter Bomb II (SDB II)

Small Diameter Bomb Increment II (SDB II) is an Air Force led, joint program that provides the warfighter a capability to attack mobile targets in all weather conditions from stand-off range. The FY 2024 budget requests $52.2 million in RDT&E for continued development/test of the SDB II weapon, F-35 developmental testing and integration, Boeing BRU-61 integration and support for integration of BRU-55 racks on F-18 stations. F/A-18E/F will IOC April 2023 and we project F-35B early operational capability (EOC) in FY 2023 with F-35C planned for FY 2024. The DON also requests $65.9 million in WPN to procure 250 All-Up-Round weapons.

Joint Air-to-Ground Missile (JAGM)

The Joint Air-to-Ground Missile (JAGM) is an improved air-launched missile system, which utilizes multi-mode seeker technology providing advanced line-of-sight and beyond-line-of-sight capabilities. The FY 2024 budget requests $0.38 million in RDT&E to continue software correction of deficiencies and associated airworthiness engineering/logistics support and any required test validation including integration testing, operation testing and cyber testing. It also includes initial efforts to assess feasibility of follow on JAGM Increment 1 weapon system and JAGM Increment 1 upgrades. The budget request also includes $79.3million in WPN to procure 264 tactical missiles and 16 Captive Air Training Missiles.

Advanced Precision Kill Weapon System II (APKWS II)

APKWS II provides high-stowed precision capability combined with low-yield warheads to reduce the risk of collateral damage while achieving the desired effect on the target. The FY 2024 budget requests $15.3 million in Procurement of Ammunition, Navy and Marine Corps for procurement of 629 APKWS II guidance section kits for use on both rotary-wing and fixed-wing platforms.

Direct Attack Weapons and General Purpose Bombs

Fully funding the General Purpose Bombs and Joint Direct Attack Munition (JDAM) line items is critical to building and maintaining the DON's direct attack weapons inventory. The FY

2024 budget requests $43.52 million for General Purpose Bombs, $73.7 million to procure 1,464 SABR-M(V3) JDAM kits, and $52.5 million for more affordable practice bombs to enhance readiness and prepare for future contingencies.

DEPOT MAINTENANCE

The FRCs perform a vital role in national defense by executing maintenance, repair, and overhaul on aircraft, engines and components, providing combat-ready weapons systems to the Fleet. The FRCs are World War II era facilities, and are in need of major upgrades and reconfiguration in order to support aviation readiness. The FRC Infrastructure Modernization and Optimization Plan was developed to guide strategic investments in infrastructure improvements, while including advanced technology opportunities, optimization of workflow, and environmental and energy resiliency. When fully executed, the FRC Infrastructure Modernization and Optimization Plan will deliver required maintenance hangar repairs and upgrades to support current and next generation aviation weapons systems, optimize workflow within the depots through significant configuration changes to their physical layout, and recapitalize obsolete industrial plant equipment with modern technology that will substantially increase productivity and safety.

In the last four years, the DON has procured more than 230 industrial equipment assets and continued construction on: the F-35B Vertical Lift Fan Test Facility, Fleet Readiness Center East, MCAS Cherry Point, NC; the Aircraft Paint Complex, Fleet Readiness Center Southwest, NAS North Island, CA; and the Targeting and Surveillance Systems Facility, Fleet Readiness Center Southeast (FRCSE), NAS Jacksonville, FL. In addition, Design efforts are underway for the F135 Engine Test Cell Modification at FRCSE, NAS Jacksonville, FL.

The Navy is instituting an acquisition program-equivalent measure of oversight for the FRC Infrastructure Modernization and Optimization Plan in order to provide DON leadership the ability to effectively and efficiently meet industrial sustainment goals. The FY 2024 budget requests approximately $2 billion across the FYDP in support of increasing aviation weapons systems maintenance throughput.