

NOT FOR PUBLICATION UNTIL RELEASED  
BY THE HOUSE ARMED SERVICES  
SUBCOMMITTEE ON TACTICAL AIR AND LAND FORCES

STATEMENT OF

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BEFORE THE

SUBCOMMITTEE ON TACTICAL AIR AND LAND FORCES

OF THE

HOUSE ARMED SERVICES COMMITTEE

ON

FISCAL YEAR 2020 NAVY MODERNIZATION PROGRAMS

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## **Introduction**

The 2018 National Defense Strategy (NDS) identifies a requirement for forward-deployed naval forces that can compete against, deter, and if necessary defeat peer adversaries. As an essential element of those naval forces, Fleet Marine Forces must provide stand-in capabilities to the fleet to facilitate sea denial and sea control operations as part of an integrated naval defense-in-depth or broader naval campaign. Furthermore, the National Defense Strategy clearly identifies the need for change – and rapid change in the form of accelerated modernization in order to arrest and reverse any erosion of our competitive naval advantage. This includes major changes to your naval expeditionary force-in-readiness – the United States Marine Corps.

Fleet Marine Forces Marines (FMF) must be able to persist inside an adversary's weapons engagement zone (WEZ) as stand-in forces to facilitate the application of lethal stand-off forces and capabilities, while simultaneously supporting broader fleet actions. Whether organized as part of an Expeditionary Strike Group, Amphibious Ready Group, or FMF capability ashore, Marine forces require significant modernization to maintain overmatch of emerging threats and support increasingly contested and distributed naval operations globally. While our initial service modernization efforts prior to the release of the NDS focused primarily on our Information Warfare capabilities and our Command Element, since its release we have prioritized modernization efforts which directly enhance the lethality of naval forces, facilitate distributed fleet operations, and accelerate the development of capabilities identified in concepts such as Distributed Maritime Operations and Expeditionary Advance Base Operations.

## **Our 2020 Budget**

“Competing with a Peer Threat” is the theme of our Fiscal Year (FY) 2020 budget submission, and directly aligns with the Secretary of Defense's guidance to increase lethality, improve warfighting readiness, and achieve program balance. This year's submission focuses on three key budget priorities – modernization, readiness, and manpower. Through divestiture of legacy systems which fail to provide overmatch against a peer adversary; key investments in manned-unmanned teaming and autonomous systems which facilitate sea control and sea denial; and programmatic reforms, we are transforming today's Marine Corps into the future Fleet

Marine Forces required by the Navy and larger Joint Force. To accomplish this goal, we require adequate, sustained, and predictable funding; as well as your continued support for divestments needed in order to modernize the force.

Accelerated and focused modernization remains critical to meeting the demands of a strategic environment marked by peer adversaries with access to advanced, lethal, and disruptive capabilities attempting to create strategic dilemmas through *fait accompli* scenarios. Forward-deployed Fleet Marine Forces operating afloat or ashore as an extension of the fleet with modern capabilities can prevent such strategic dilemmas through deterrence by denial, and if required – deter via punishment along with the rest of the fleet. As previously noted by the Commandant during testimony, we need a force capable of denying freedom of naval maneuver to deter our adversaries; or, as necessary, a Corps capable of exploiting, penetrating, and degrading advanced adversary defenses in all domains in support of Naval and Joint Force operations.

In order to achieve the modern and lethal naval force required, we must experiment with new technologies available on the market, and then deliver the most promising of those capabilities to the force quickly to take advantage of the rapid rate of technological change. The Marine Corps Rapid Capabilities Office (MCRCO) makes this possible, seeking emergent and disruptive technologies to increase our lethality and resiliency. The MCRCO leverages authorities provided in the FY 2016 and FY 2017 National Defense Authorization Acts and develops partnerships to accelerate the requirements development and definition process. With the consistent and steadfast support of Congress, we will continue to fully fund this office. We also embrace the idea of alternative acquisition pathways. We are using and seeing value in Other Transaction Authority and intend to apply middle tier rapid fielding authority at the first appropriate opportunity as a solution to expedite modernization, where production is achievable within five years or less. We look forward to working with this Committee to identify additional opportunities to accelerate our acquisition processes.

The following capability areas and ground programs support the rebuilding a 21st century Fleet Marine Force necessary to facilitate fleet operations in contested maritime spaces.

#### Long Range and Precision Fires

The NDS, as well as emerging naval concepts, identify the need for naval forces capable of conducting lethal strikes at range, in depth, and with precision in support of sea control and

sea denial missions. Marine Corps ground modernization efforts in long range precision fires will enable our ground forces to contribute to Naval Integrated Fire Control-Counter Air (NIFC-CA) and Army shore-to-shore Long-Range Precision Fires capabilities.

In coordination with the Navy, the Marine Corps is pursuing the integration of offensive anti-surface warfare (OASuW) capabilities into traditional ground formations. The Navy/Marine Corps Expeditionary Ship Interdiction System is a near term development of a ground-based anti-ship missile capability that will soon enable the Fleet Marine Forces to contribute to sea control/sea denial in support of a maritime campaign, as an element of the joint force. These forward deployed capabilities, ashore and afloat, will enable our fleets to deny adversary use of key maritime areas or terrain, supporting the concept of distributed maritime operations, with increased fire support precision, range, and lethality.

We continue to expand our rocket artillery capacity through additional investments in High Mobility Artillery Rocket System launchers and communications equipment in support of the activation of 5th Battalion 10th Marines, which will reach initial operational capability in FY 2021. This battalion will expand long range precision fires capability of Fleet Marine Forces based in Camp Lejeune, North Carolina, and supporting 2<sup>nd</sup> and 6<sup>th</sup> Fleets.

The Marine Corps is also working closely with the Army to develop longer range cannon and rocket systems and projectiles, such as the M777 Extended Range, supercharge cannon propellant, XM1128 base bleed projectile, XM1113 rocket assisted projectile, and Guided Multiple Launch Rocket System Extended Range rockets in support of sustained operations ashore. These modernization efforts could double the range of current cannon and rocket artillery systems. Furthermore, we are participating in the Army's Cannon-Delivered Area Effects Munition efforts to work toward a replacement for Dual Purpose Improved Conventional Munitions. Each of these efforts provide opportunity to work jointly toward common capability requirements while minimizing overall costs.

#### Protected Mobility/Enhanced Maneuver

To distribute and concentrate FMF ashore, we must be able to maneuver to positions of advantage, and engage and defeat threat forces in all geographic, topographic, and climatic environments from contested littoral waterways to complex urban environments occupying key terrain in relation to maritime spaces. Our ground combat and tactical vehicle modernization

programs will replace legacy in our inventory while also providing key mobility enablers supporting the full range of future operational capabilities.

The Department of the Navy's and Marine Corps' highest Ground Combat and Tactical Vehicle modernization priority is replacement of the legacy Amphibious Assault Vehicle (AAV) with the Amphibious Combat Vehicle (ACV). In June of 2018, the ACV program achieved Milestone C and awarded BAE Systems the production and deployment phase contract. During the fall of 2018, ACV 1.1 prototypes demonstrated satisfactory water mobility performance in high surf conditions, and in doing so met the full water mobility transition requirement for ACV 1.2 capability. Subsequently, the Milestone Decision Authority (ASN(RD&A)) approved the consolidation of increments one and two into a single program to enable continuous production of ACVs to completely replace the AAV. The next key acquisition event is the Full Rate Production decision scheduled for the third quarter of FY 2020 following Initial Operational Test & Evaluation. ACV remains on schedule to achieve Initial Operational Capability in the fourth quarter of FY 2020.

Our second highest priority remains the replacement of the legacy high mobility, multi-purpose, wheeled vehicle (HMMWV) inventory to support sustained operations ashore. In partnership with the Army, we have sequenced the Joint Light Tactical Vehicle (JLTV) program to ensure affordability in conjunction with the execution of the ACV program. This approach enables an affordable, incremental, and simultaneous modernization of the two most stressing gaps within the Ground Combat Tactical Vehicle portfolio. We have initiated fielding the JLTV, and new equipment training is underway. The next key acquisition event is the Full Rate Production decision planned for May. Initial Operational Capability remains on schedule, and, by the end of July the Third Battalion, Eighth Marines will be the first operational unit equipped with JLTV as it prepares for its next rotation with the Amphibious Ready Group/Marine Expeditionary Unit.

### Air Defense

Forward deployed and stationed naval forces ashore are vulnerable to attacks by adversaries with ready access to cheap asymmetric capabilities – whether traditional rockets or unmanned systems that have proven in recent conflicts to be both lethal and highly disruptive.

Lacking the protection and requisite resilience necessary to mitigate and defeat these threats, we are investing heavily in modernizing and expanding our air defense capabilities ashore. We aggressively developing the Marine Air Defense Integrated System (MADIS) Family of Systems (FoS) to provide the naval force with an ability to detect, track, identify, and defeat UAS, rotary and fixed wing aircraft. Coming in multiple configurations, the MADIS FoS includes a JLTV-based variant to defend maneuver forces against Unmanned Aircraft Systems (UAS), fixed and rotary wing aircraft, as well as a variant that provides all Marine Corps Installations, both CONUS and OCONUS, with a counter UAS capability specially tailored to match the needs of each installation.

We have further identified the need for an expeditionary cruise missile defense system to facilitate naval operations and further support Fleet Marine Forces persisting inside the WEZ; thus, we are investing in a Medium Range Intercept Capability (MRIC). Integrated with the Common Aviation Command and Control System (CAC2S), Ground/Air Task Oriented Radar (G/ATOR) and other sensors, the MRIC will defend Fleet Marine Forces from a wide array of cruise missiles and other aerial threats, providing protection of critical assets and enabling the force to execute Expeditionary Advance Base Operations.

#### Command and Control (C2) in a Degraded Environment

Fleet Marine Forces require a sustainable, defendable, and resilient C2 network, integrated with Navy and Joint Force networks, which allows for timely and persistent information exchange while enhancing battlefield awareness to dispersed tactical units. Critical to the success of our support to the fleet is our ability to coordinate and synchronize our distributed C2 sensors and systems. Our modernization priorities in this area are G/ATOR and CAC2S. These systems will provide modern, interoperable technologies to support real-time surveillance, detection and targeting, and common aviation C2 suite to enable the effective employment and information sharing of that and other sensors and C2 suites across the force.

G/ATOR ensures Fleet Marine Forces will be in full control of designated airspace, and provides FMF commanders the freedom of action to employ organic surface and air fires. G/ATOR Block II will acquire threat indirect fire systems at much greater ranges than currently fielded radars. The principal functions of G/ATOR Block II will be to detect, track, classify, and

accurately determine the origin of enemy projectiles. G/ATOR detects the most challenging air threats to the FMF, and will out-pace the threat for years to come.

CAC2S provides the tactical situational display, information management, sensor and data link interface, and operational facilities for planning and execution of Marine Aviation missions in support of the fleet. CAC2S will eliminate the current stove-piped, dissimilar legacy systems and will add capability for aviation combat direction and air defense functions by providing a single networked system. CAC2S will be the primary C2 system that integrates Marine aviation operations with Joint, combined, and coalition aviation C2 agencies.

Networking on the Move is a C2 capability integrating tactical data systems with satellite communications for Beyond Line of Sight uninterrupted two-way access to digital data, with full Common Operational Picture access, virtually unlimited situational awareness and a powerful ability to issue digital orders (fires, maneuver, planning) to ground, air, and logistic units anywhere on the battlefield while on-the-move or at-the-halt.

#### Operations in the Information Environment (OIE)

Adversary use of "information" to manipulate facts, mobilize mass perceptions, and contest our ability to C2 forces undermines our traditional military advantages. We cannot count on uncontested access to the electromagnetic spectrum any more than we can count on uncontested freedom of maneuver at sea. Our Electronic Warfare Ground Family of Systems (MEGFoS) is being developed to employ a common backplane hardware infrastructure, which enables plug & play capability, using software defined transceivers, amplifiers, and specialized modules to provide upgradable, networked electronic warfare systems for use across the FMF – on tactical vehicles, by dismounted Marines, and at Expeditionary Advance Base sites. MEGFoS will operate across a wide range of frequencies in order to provide the FMF the ability to maneuver and fight in and through the electromagnetic spectrum. Our transition to MEGFoS will be via the Multi-Function Electronic Warfare (MFEW) program which modernizes Counter Radio-Controlled Improvised Explosive Device – Electronic Warfare (CREW) systems to provide networked and distributed MFEW capabilities to sense and attack the adversary while providing protection from a multitude of advanced spectrum reliant threats.

We are making rapid progress in the use of UAS to conduct Intelligence, Surveillance, and Reconnaissance, defend our troops in harm's way, build battlefield Situational Awareness, and prosecute targets of opportunity. We are currently fielding small UAS (sUAS) to every infantry battalion for conducting Reconnaissance, Surveillance, and Target Acquisition, for enhancing the reach of current communications equipment, and for use in training for countering enemy UAS platforms. We are using some commercial off-the-shelf systems as well as systems produced through the use of additive manufacturing. Simultaneously, we continue to advance the digital interoperability between these systems and digital communications systems in order to synchronize as well as control sUAS platforms.

### Logistics

In a mutually contested maritime environment, logistics takes on greater significance; especially for distributed naval forces operating inside the WEZ. Global awareness, diversified distribution, improved sustainment, and optimized installations are key enablers to sustained operations. This requires innovative methods, the ability to leverage new technologies, and continued naval integration as well as integration with Joint and Coalition forces. Science and technology efforts in additive manufacturing have resulted in advanced manufacturing techniques, and must include reverse engineering, prototype development, small to large scale fabrication, and development of new approaches. As a result, we have procured 160 3D printers, with more than 125 ground and 83 NAVAIR-approved aviation parts; immediately improving readiness and lethality. Additional investments in enhanced command and control for logistics systems, unmanned transportation and storage of bulk fuel, and a broader unmanned logistics systems – to include quadrotor cargo delivery systems and littoral connectors – are paving the way in Next Generation Logistics capabilities. Our logistics modernization efforts include the development of autonomous ground, surface and sub-surface materiel distribution systems. These include the development of autonomous ground, surface and sub-surface materiel distribution systems; development of operational and tactical, in-field digital fabrication capabilities; and the development of sensor-driven logistics information technologies.

## **Summary/Conclusion**

In conclusion, the Marine Corps and our Fleet Marine Forces must accelerate modernization efforts, and prioritize those initiative and programs which increase the lethality of our stand-in forces, those Fleet Marine Forces inside the WEZ, in order to more effectively support distributed maritime maneuver and compete and deter. To achieve this end, we will continue to transition from today's "1.0 force" to a near-term "1.1" modernized force that leverages select, existing platforms to achieve new warfighting concepts; and ultimately, to a "2.0 future force" with revolutionized capabilities required to create the competitive overmatch desired by the NDS. While we are clear on what success looks like for the future naval force and Fleet Marine Force, as well as the path and sequence of events necessary to cause our desired outcomes; there are many obstacles to overcome, and we will need your continued support in order to succeed. As we accelerate modernization and identify new capabilities which create overmatch, we will have to make decisions regarding capacity reductions, changes to programs-of-record, and potentially seek outright divestments of legacy capabilities. These divestments will be required to secure sufficient funding for our modernization. Your continued oversight and support will be essential. In closing - accelerated modernization is the most effective remedy to the problems and challenges identified in the NDS, as well as the appropriate remedy to our long-term readiness problems.