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HOUSE ARMED SERVICES COMMITTEE
TACTICAL AIR AND LAND FORCES SUBCOMMITTEE

STATEMENT

OF

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BEFORE THE

HOUSE ARMED SERVICES SUBCOMMITTEE ON
TACTICAL AIR AND LAND FORCES

ON

THE USMC F-35 PROGRAM

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RAYBURN HOUSE OFFICE BUILDING

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Chairman Turner, Ranking Member Tsongas, distinguished members of the House Armed Services Subcommittee on Tactical Air and Land Forces, and other distinguished members, thank you for your continued support. We appreciate the opportunity to testify on the F-35 Lightning II Program.

Marine aviation was created to support the Rifleman – the Marine on the ground – as we fight our Nation's battles. Aviation provides speed, agility and reach to the Marine Air Ground Task Force (MAGTF) battlespace. In line with Secretary Mattis' guidance, my top priorities for Marine aviation are framed around lethality and include building readiness for combat and modernizing the fleet. Transitioning Marine aviation from its fleet of legacy tactical aircraft to a combination of fifth generation F-35B and F-35C aircraft is critical to building readiness and meeting the demands of the strategic environment. The F-35B and F-35C remain a top acquisition priority for the Marine Corps. The F-35 provides transformational warfighting capabilities for the future naval and Joint Force. Whether the mission requires the execution of strike, close air support, counter air, escort, or electronic warfare, the F-35 Lightning II will form the backbone of U.S. air combat superiority for decades to come.

**Operational Update**

In the past two years, the Marine Corps conducted trans-oceanic flights across both the Atlantic and Pacific, and exercised the expeditionary capability of the aircraft both aboard ship and in austere environments. To date, the Marine Corps has activated four F-35B squadrons and amassed over 34,000 flight hours in the aircraft. VMFA-121 is permanently stationed in Japan and has assumed the 31st MEU and F/A-18 UDP commitments. The squadron deploys six aircraft with the 31st Marine Expeditionary Unit (MEU) this week – the first operational F-35 shipboard deployment. Our second F-35B squadron, VMFA-211, deploys six aircraft to the 13th MEU this July; *we will have two MEUs deployed with the F-35B this summer.* A combined arms element such as today's MEU afloat is completely revolutionized by having F-35B Short Takeoff and Vertical Landing (STOVL) aircraft aboard. The F-35B can fill the basic role

of providing fixed wing strike and surveillance support to the MAGTF commander and, in the moment, turn and penetrate a high-threat Integrated Air Defense System (IADS). This is a concept completely impossible prior to putting the F-35B on a MEU. The F-35s deployed aboard a MEU can execute all of our current missions to support the Battalion Landing Team (BLT) while simultaneously providing a high-end deterrent to any potential near-peer threat that may emerge. The capabilities of the F-35 make our MEUs, Amphibious Ready Groups, and Carrier Strike Groups more lethal and more survivable – and this is happening *now.*

The Marine Corps has begun procurement of the F-35C variant and will transition its first F-35C squadron, VMFA-314, in FY19. That squadron will be ready for expeditionary operations in 2021 and deploy aboard an aircraft carrier in 2022. Ultimately, we will have four F-35C squadrons that will rotate into deployments on the carrier through Tactical Air Integration (TAI). The F-35C provides the Marine Corps with the exact same systems capabilities and allows us to employ the aircraft from forward deployed airfields or from US Navy aircraft carriers in support of Joint or MAGTF operations. We expect to be out of legacy TACAIR and complete the transition to the F-35B and F-35C by 2030.

**Partnership**

The Marine Corps will continue to support integrated training operations with our U.K. partners. U.K. aircraft continue to deliver to VMFAT-501 to support the standup of the first U.K. squadron. The UK training pipeline will transition to the RAF Marham, U.K., in June 2019 but the UK pilots will continue to train with Marines at MCAS Beaufort until then. The U.K. is also supporting the F-35B Joint Operational Test Team at Edwards AFB. Between its pilots, maintainers, and support personnel, the U.K. has over 200 people in the U.S. involved in the F-35 program. The U.S. – U.K. carrier integration is also ongoing, and the U.S. will officially support the U.K inaugural deployment on HMS Queen Elizabeth in 2021 with USMC F-35Bs.

**Operator's Perspective**

From the operator's perspective the F-35's performance is unmatched. F-35 gun squadrons have participated in exercises such as Red Flag, Agile Lightning, and our Weapons and Tactics Instructor (WTI) course at Marine Aviation Weapons and Tactics Squadron One. The Marine Corps has now produced eight F-35B WTIs, and both pilots, and instructors continue to praise the F-35's situational awareness and lethality. During these multiple exercises and WTI classes, we have witnessed first-hand how the F-35 enhances the effectiveness of the Marine Air Ground Task Force, most notably through increased lethality and battlespace awareness. Within the Air Combat Element (ACE), the 5th generation capabilities of this airplane increases the synergy, awareness, lethality and survivability of the entire force. The aircraft has proven its worth across all assigned mission sets, and achieves mission success previously unrealized in legacy platforms.

**Operations and Sustainment (O&S) Challenges**

It is true and well known that this airplane has been accompanied by an increase in operating costs over our aging F-18s and AV-8Bs; this is by far our greatest programmatic challenge. Much of that increased cost is associated with laying in the appropriate infrastructure to support flight operations, but also the initial procurement of everything that supports the F-35. As an example, right now we are in the midst of procuring initial spares packages for bases and ships; however, once those spares packages are procured, the cost associated with refreshing those packages are significantly lower than the initial buy.

There is also a learning curve associated with an updated model to our aviation logistics. The Joint Program Office re-designed their structure for this in late 2016 and we are just now getting the Hybrid Product Support Integrator (HPSI) in gear to manage the Global Support Solution for all Services

and Partner nations. As this process becomes more mature, we expect to see a decrease in the operations and sustainment costs.

**O&S Cost Initiatives**

The Marine Corps needs to see a reduction in the cost-to-own and operate the F-35 and we are working with the Joint Program Office and industry to drive down those costs. Key areas such as parts reliability and repair-turn-around times are being addressed. In PB-19, the Navy and Marine Corps programmed money to begin standing up our own Intermediate Level maintenance capability. This capability will assist in not only reducing stress on the supply chain, but also is more in line with our expeditionary operating concept. The Marine Corps' Intermediate Level (I Level) maintenance capability will enable the organic repair of both support equipment and aircraft components to include Alternate Mission Equipment (AME) and F-35 gun pod repairs, engine component repair, low observable material repair procedures, limited hydraulic component repair, and limited airframe structures repair. The I-level effort, which is essential to our core expeditionary and maritime operating concept, will also serve as a point of departure for an effort to bring test, check and repair closer to the squadron. Cost is driven down through more efficient troubleshooting, a decrease in the cost of moving parts to and from OEM manufacturers, and better maintenance and sparing efficiency. In all, this initiative has the potential to save the Marine Corps $451M in lifetime ownership costs while improving aircraft availability. As a specific example, roughly 14 months ago, a joint JPO / USMC Team was established to investigate increases in expected F-35B sustainment costs seen between POM-17 and POM-19. The team determined that costs were underrunning expectations by about 10-15%, a closer look at the data revealed that the underruns were at least partially due to under-execution. With that information, the team built a multi-year Affordability Campaign Plan with the established goal of reducing per-tail F-35B

sustainment costs closer to 4th generation aircraft levels. This first stage focused on specific cost areas, and developed targeted initiatives.

The Department is currently reviewing a re-structuring of the Program Office. This initiative is in response to an OSD AT&L review of established management structure. The review specifically focuses on how we can make efficiencies within the existing structure of the organization through a re-design of the current management structure. We are still a long way from implementation, but all of the Services are actively reviewing this with the intent to drive down the cost of the program.

**Procurement**

The Marine Corps' procurement schedule for the F-35 is on track to support the warfighter and our ability to be deployed around the world. Beginning in 2018 the Marine Corps procurement rate will exceed 20 aircraft per year, which marks the start of the full rate of transition operations. We have an aggressive roadmap over the next seven years, transitioning five F/A-18 Hornet and four A/V-8B Harrier units to F-35 units from 2020-2025. The transition plan accounts for money programmed into procurement and sustainment of aircraft, infrastructure, development and test, and manpower. Our current procurement across the future years defense program is right-sized for the Marine Corps based on our ability to train aircrew and maintainers to support 5th generation flight operations while simultaneously supporting Global Force requirements with our fourth generation platforms.

**System Development Demonstration (SDD)**

The F-35 program continues to meet Marine Corps requirements in SDD. We are still on track to receive the full F-35B weapons inventory (external & internal) and envelope around April – May 2018 with the release of 3F software. SDD deficiencies continue to be identified and addressed in accordance

with the Deficiency Report (DR) process. The Marine Corps doesn't anticipate any "show stoppers" that will prevent SDD exit.

The program anticipates the production release of 3F in late spring 2018. This software upgrade will realize a major increase in the F-35's combat capability, making it the premier multi-role (to include electronic warfare) fighter in the world. Operational test communities are actively identifying and correcting deficiencies discovered in the 3F test software. There are no anticipated deficiencies that will delay the release of 3F to fleet aircraft.

Currently, there are no known overt risks to SDD exit or 3F; however, concern remains in the rate of production of 3F Mission Data Files (MDFs). The U.S. Reprograming Laboratory (USRL) produces the MDFs, but the process is very data intensive and complex and the lab has a limited a production capacity. These issues have the full attention of the Joint Program Office and Lockheed Martin, and the Marine Corps feels comfortable with the recent positive trajectory. As the program matures, the Reprogramming Labs will gain the capacity to produce multiple MDFs, as well as respond to urgent requests for MDF updates.

**Continuous Capability Development and Delivery (C2D2)**

The F-35 partnership, through the leadership at the Joint Program Office, recently re-structured the original Block 4 Follow-on Modernization (FOM) strategy into a more agile Continuous Capability Development and Delivery (C2D2) program. This approach leverages existing commercial practices and develops capabilities in smaller, more managed increments which will accelerate the delivery of warfighting capability.

While this strategy delivers the capabilities required to fight and win against emerging threats, it is expensive. Several studies have validated the current C2D2 plan and identified areas in which costs

can be reduced. These studies also indicate that C2D2 has accurately captured the requirements needed to keep the F-35 on the tactical and operational edge; however, accurate capability requirements are not always aligned with budget realities. There are ongoing efforts that are attempting to find efficiencies across the C2D2 enterprise to reduce overall costs.

**ALIS (Aviation Logistics Information System)**

During deployed operations, both expeditionary and at sea on amphibious ships, ALIS' performance improved over the last year. In 2018 ALIS will support the F-35B MEU deployments. While there are significant challenges with the efficiency of ALIS, the Marine Corps has demonstrated that the system supports operations both at sea and in austere environments.

The Marine Corps is working with the Program Offices and the other services to evaluate work on two intermediate phases of ALIS which will help stabilize the ALIS system and strengthen future cyber compliance requirements.

Other improvements have been incorporated to assist ALIS and the warfighter. We have implemented a cyber security evaluation of new F-35 squadrons that searches for ALIS interface vulnerabilities within the squadron or squadron spaces. We have also developed a cross domain solution (CDS) that enables F-35 post flight data (downloaded on a special access program (SAP) system)to be sanitized and converted to the secret level. Our vision for ALIS is a holistic IT backbone that enables our Marines and aircraft to operate in any clime or place.

**Conclusion**

I will conclude by reemphasizing that both variants of the F-35 – the B and the C – are critical to Marine aviation's modernization strategy. The average age of Marine Corps TACAIR aircraft is 22 years.

Our fleet of Harriers, Hornets and Prowlers – while proven – is exhausted. Even in its most basic form, this 5th generation aircraft is more capable than any of our legacy tactical aircraft.

Mr. Chairman, distinguished committee members, we appreciate your continued support of our Aviation programs and we look forward to answering all of your questions.