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SUBCOMMITTEE ON DEFENSE
COMMITTEE ON APPROPRIATIONS

**STATEMENT OF
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**BEFORE THE
SENATE SUBCOMMITTEE ON DEFENSE
COMMITTEE ON APPROPRIATIONS
ON
THE JOINT STRIKE FIGHTER**

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Chairman Durbin, Vice Chairman Cochran, distinguished members of the committee, thank you for the opportunity to testify today on the carrier variant of the F-35 Joint Strike Fighter (F-35C).

The F-35C will replace our F/A-18C Hornet fleet starting at the end of this decade and provide essential and unique capabilities that complement the rest of our carrier air wing (CVW). Our focus areas, from today until the time F-35C enters the fleet, remain: ensuring the F-35C delivers the capability we need and expect, integrating F-35C into our CVWs, and understanding and addressing the requirements to sustain the aircraft and its payloads.

The capability we need and expect from the F-35C

The capability the F-35C is expected to deliver is needed to provide Navy a strike-fighter with the stealth, sensing and command and control capabilities for our future CVW to do two important missions: assure access and project power. These missions require our aircraft be able to overcome, by stealth, jamming or threat system destruction, surface-to-air missiles, air-air missiles, tactical aircraft and sensors. These threats and their components will continue to advance and (likely) proliferate within the next decade – and may be employed individually or collectively as part of more capable air defense ships or integrated air defense systems. Our CVWs will need the F-35C’s contributions to assure access and project power in the future.

The F-35C is expected to operate closer to threats than the F/A-18 E/F Super Hornet because the F-35C has a lower radar signature and an improved capability to detect, avoid and jam enemy radars. The F-35C is designed to be able to use this access and its more sophisticated and comprehensive suite of sensors to conduct “first day” attacks and to establish an operational picture of the battlespace.

Equally important, the F-35C is designed to share its operational picture with other aircraft – particularly the F/A-18 E/F – to enable them to conduct strike and anti-air attacks with stand-off weapons. The F-35C is expected to be able to integrate various active and passive sensors from multiple aircraft (including F/A-18, E-2D Hawkeye, and EA-18G Growler) into the F-35C’s operational picture. This process automatically formulates “weapons-quality” tracks for each target that can then be shared with other aircraft and ships, enabling them to engage the target.

Integrating F-35C into our CVWs

At a minimum, the F-35C will need to initially deliver equivalent capabilities to the F/A-18C it replaces in order for F-35C to integrate into the CVW. These capabilities are the ability to operate on and from the aircraft carrier and the ability to detect and engage aircraft, ground targets and surface maritime targets. These capabilities will be incorporated into F-35 as part of Block 3F, which makes this software program and associated equipment (Block) necessary for F-35C to be integrated into the CVW.

I am monitoring two other items needed to integrate F-35C into the CVW: redesign and testing of the Arresting Hook System (AHS) and correction of problems with the Helmet Mounted Display System (HMDS). Based on Joint Program Office (JPO) projections, the AHS will be corrected within a year, while the HMDS will be addressed in the F-35A and F-35B, before the Navy's F-35C is fielded. Based on JPO-projected development timelines, testing milestones and carrier suitability evaluations, the Navy has established February 2019 as our threshold (minimum expected) Initial Operational Capability (IOC) date, with an objective date of August 2018.

Understanding and addressing sustainment requirements

The timeframe between now and threshold IOC affords the Navy adequate time to prepare to integrate F-35 into the fleet. In addition to integrating F-35C's warfighting capabilities into the CVW, the system's maintenance and sustainment processes must be compatible with our existing infrastructure – and the F-35C presents unique maintenance and logistics challenges. For example, sustaining the Low Observable (LO) signature of the aircraft will be a new challenge to Navy maintainers. It is expected that there will be a learning curve in order to properly maintain this critical feature in the relatively harsh at-sea environment. Another challenge is the movement and transfer of replacement (spare) engines onto a deployed aircraft carrier, at sea around the world. Current fixed-wing, helicopter, and ship-to-ship at-sea transfer methods are not capable of moving the "Power Module," the largest module of the F135 engine; it is too big. We are exploring different options to resolve these at-sea challenges prior to IOC, and our first F-35C operational deployment.

There are additional challenges, from Navy's perspective, associated with the builder's maintenance concept for F-35C. The demands of CVW operation in an expeditionary environment have taught us we need to be able to do maintenance, and some repairs, at sea. Our Sailors accomplish many of the maintenance requirements for all of our CVW aircraft at intermediate ("I-level") maintenance facilities inherent aboard the aircraft carrier at sea. Currently, the F-35C program is not designed to incorporate I-level maintenance. The Joint Program Office (JPO) has been requested to arrange for, and review, a Level of Repair Analysis (LORA), which will be independently assessed by a third-party, to study the business case of incorporating I-Level infrastructure into the F-35 program. This Tri-Service study will examine avenues to optimize current processes and maintenance investments which could save money, enable more repairs of F-35C to be conducted at sea and increase the operational availability. The results of this study will be available for all Services to consider. We are also examining whether the F-35C's requirements for data "reachback" to support logistics orders and maintenance planning are suitable for the forward maritime operating environment. Each of these aspects of F-35C sustainment (logistics, repair and maintenance) impacts the cost to sustain the F-35C, and we are working to understand them fully to identify opportunities to reduce sustainment cost.

Conclusion

The Navy needs the capability of the F-35C and remains committed to it as an essential component of our future CVW. However, we have some challenges to work through to ensure it delivers the capability we need and expect, integrate F-35C into our CVWs, and understand the requirements to sustain F-35C. The JPO plans are designed to address these challenges in the timeframe between now and when Navy intends to field the F-35C.

Thank you again for the opportunity to appear before the committee and I look forward to your questions.