F-35 PROGRAM ACCOMPLISHMENTS, ISSUES, AND RISKS

United States Air Force
Presentation to the
Tactical Air Land Forces and Readiness Subcommittees
of the House Armed Services Committee

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Hearing Date: April 22, 2021

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I Introduction

Chairman Norcross, Ranking Member Hartzler, distinguished members of the Tactical Air and Land Forces Subcommittee; and Chairman Garamendi, Ranking Member Lamborn, and distinguished members of the Readiness Subcommittee; thank you for the opportunity to discuss F-35 accomplishments, issues, and risks today on behalf of the United States Air Force.

The United States Air Force is absolutely committed to the F-35. The F-35 we have today has performed very well in operations our Airmen have conducted in permissive and contested environments around the globe. But we are not paying for the F-35 to perform "very well;" we are paying for outstanding. We are paying for the outstanding capability we need to compete, deter, and win in the contested to highly-contested environments that our peer competitors have already fielded, and are actively improving at a rapid pace, today.

The Air Force will ultimately possess and operate the world's largest F-35 fleet. As such, we will simultaneously be the program's most demanding customer—and its staunchest advocate. The Air Force recognizes and appreciates the tremendous progress the government and industry team has made, with the help of the Congress, to deliver the formidable weapons system we have today. The F-35 is the only western Fifth Generation aircraft currently in mass production; it provides the United States and our closest Allies and partners with potent combat power. Most of this statement, however, will focus on the progress we still need to make in coming years to maximize our future warfighting readiness. Realizing the F-35's full potential will maximize the return on investment for the F-35 international partnership's significant financial and political commitments made since the award of the Systems Development and Demonstration contract on 26 October 2001.

Before digging deeply into the F-35 attributes we need, we must first consider the F-35 in the context of the broader Air Force fighter portfolio. Each fighter in our current fleet executes complementary missions with a degree of necessary overlap. In looking toward the required attributes of our fighter force design, it is clear we need an effective and affordable balance of capabilities that span the spectrum of enduring demands on our force, from the ability to achieve air superiority with persistence in highly-contested environments to defending the homeland. We must have the right mix of capabilities in the right capacity to ensure combat readiness for today and tomorrow, while making steady progress toward reducing the average age of our fighter fleet.

A fighter portfolio comprised of complementary capabilities allows Air Force Component Commanders to force package to meet unique mission demands; fighters rarely, if ever, execute missions alone. For example, if called upon to fight a peer adversary today in a highly-contested environment, the F-22 and F-35 would provide a potent 1-2 punch as part of a joint or coalition team. In the future, our Next Generation Air Dominance platform will be an even-more formidable teammate for the F-35 in that environment. In lesser-contested environments, partnering F-35s, F-15 Eagle IIs, and other complementary capabilities will provide multiple force package options for commanders.

The F-35A, due to both its warfighting capability and the large capacity we intend to procure, will be the cornerstone of the Air Force's fighter force within that broader portfolio for decades. But like any cornerstone in a house, it must be strong enough to hold up the rest of the Air Force's fighter structure. Highly-contested Chinese and Russian warfighting environments, supported by novel operational concepts and rapid weapons development timelines, define the warfighting challenges we need the F-35 to solve in order to be an effective cornerstone.

Consequently, we need a capable, available, and affordable F-35 to outpace these key competitors and win the high-end fight. The Air Force needs these attributes in the quantities required to deter, compete, and win against any adversary; the Nation expects nothing less of its Air Force.

The F-35 attributes the Air Force needs will also bolster our joint Navy and Marine teammates, seven F-35 international partner nations, and the ever-growing list of Foreign Military Sales customers. The F-35 already makes our joint force and coalitions more effective, lethal, and survivable today. Continued modernization with an emphasis on sustainment and affordability will enhance interoperability and integration across the entire joint and coalition combat force, increasing our collective combat effectiveness. The F-35 will be the fighter aircraft cornerstone for many services and nations – not just the U.S. Air Force – for decades to come. We must get this right, for all of us.

As the Air Force Chief of Staff General CQ Brown wrote in his strategic approach document, *Accelerate Change or Lose*, getting this right means we need to work differently with other Department of Defense stakeholders, the Congress, and our industry partners. The Air Force is committed to working with our teammates testifying here today, and with the Congress, to ensure the Air Force and our joint and international Allies and partners get even more capable, available, and affordable F-35s.

II Capable

Air Force F-35As completed successful, year-and-a-half-long consecutive Middle East combat deployments in October 2020. These deployments generated real-world data to allow us to evaluate the deployed performance of the F-35, learn valuable lessons from long-duration

combat sorties, and mature combat and sustainment concepts in permissive and less contested environments.

The current Block 3F F-35 provides a significant capability improvement over 4th generation aircraft. The aircraft effectively counters the threats it was designed to counter. We know this to be true based upon our experience in operational test, and from combat operations conducted by the United States and Allies within the Syrian Integrated Air Defense System.

That said, peer competitors are aggressively modernizing their forces to counter traditional U.S. asymmetric advantages like stealth fighters, rendering Block 3F F-35s less effective against emerged and evolving high-end threats in 2025 and beyond. Therefore we need Block 4 F-35 modernization, enabled by Technical Refresh-3 (TR-3) hardware, on competition-relevant timelines to ensure continued F-35 relevance against China or Russia. The first Air Force aircraft to deliver with TR-3 is expected in mid-2023. This delivery schedule is assessed to be high risk, with little-to-no margin for unexpected discoveries in qualification or flight test. Block 4 capabilities increase our ability to prosecute targets, increase survivability, enhance interoperability, and improve sustainment. Any additional schedule slips to either TR-3 or Block 4 will increase risk to combat mission accomplishment and to our Airmen.

Beyond critical Block 4 platform and software improvements, we need to accelerate related capabilities. The Air Force also needs a simulator capable of replicating the expected threat environment, both in fidelity and density, to meet full-spectrum training requirements. The planned training system re-architecture should leverage existing F-35 Joint Simulation Environment (JSE) investments and complement ongoing Air Force efforts toward a Common Synthetic Training Environment across weapons systems. Finally, more so than any other fighter in the inventory, F-35 operational performance is wholly dependent upon the availability,

currency, and accuracy of its mission data files. The F-35 electronic warfare reprogramming enterprise must be agile enough to respond to a rapidly evolving threat environment and have sufficient capacity to cope with multiple Block 4 hardware and software configurations by 2024.

III Available

The Air Force needs F-35 squadrons that are fully mission capable across a range of expected missions and available to prevail against peer adversaries under contested logistics, during regional lower-scale contingency operations, and to produce sufficient readiness during peacetime training. While the Air Force faces several F-35 availability challenges, the two most urgent needs involve the F135 engine and the transition from the Autonomic Logistics Information System (ALIS) to the Operational Data Integrated Network (ODIN).

F135 engine issues are a significant challenge to Air Force F-35 readiness today. Current F135 engine removal rates and elevated repair scope are outpacing F135 depot production capacity. As of 08 April 2021, 20 Air Force aircraft are grounded without a serviceable engine. These 20 aircraft include 6 aircraft grounded from months to years awaiting repairs from flight or ground mishaps. Without mitigation, data suggests 20% of the F-35 fleet will be Non-Mission Capable (NMC) by 2025 and 43% will be NMC by 2030. Mitigation planning efforts are well underway and their associated funding requirements are coming into focus for the nations that operate the aircraft, the Joint Program Office (JPO), and industry. The Air Force needs the government and industry team to accelerate an affordable long-term solution while maximizing near-term F-35 availability for operations and training. The Air Force and Navy are also working together with the JPO to develop a revised concept of operations (CONOPs) for engine sustainment that better meets user needs.

The current Lockheed-Martin ALIS architecture limits operational and deployment capability, driving the transition to ODIN. ODIN will eventually provide a smaller, more flexible, and more capable hardware solution, using modern architecture integrating software applications to meet warfighter requirements. The ODIN Capabilities Need Statement (CNS) and User Agreement (UA) have been signed by all F-35 Partners and Services. These documents drive requirements and ensure end users are properly represented throughout the software development and delivery process. The development of ODIN will be delayed and the F-35 enterprise's reliance on ALIS will continue. In the meantime, the Air Force appreciates the program's efforts to enhance ALIS cyber security and to improve the ALIS user experience for our maintenance professionals.

IV Affordable

The Air Force has a finite amount of resources available to procure, operate, and sustain the F-35. If we cannot find ways to make the program significantly more affordable, particularly with respect to total life cycle cost, then we will be forced to make difficult decisions in the coming years to meet our fighter force mix needs.

The Air Force is engaged with the JPO, international partners, and industry teammates to tackle the affordability challenge head on. The F-35 program is experiencing multiple competing affordability pressures that collectively challenge the Air Force, to include higher-than-planned life cycle sustainment costs, TR-3 and Block 4 cost increases, the need for increased propulsion sustainment, ALIS-ODIN transition funding shortfalls, depot stand-up costs, training systems enhancements, mission-data file generation improvements, and procurement of product support technical data from Lockheed-Martin and its suppliers. Additional funding may be required to address some or all of these issues, and we are making

progress on understanding the interdependencies between these categories. As we work through this, the international F-35 partnership is already being forced to make tough choices about where to spend the next strategic dollar. From a holistic perspective, generating and sustaining the combat capability we need requires deliberate planning to alleviate these various pressures.

The Air Force's life cycle affordability challenge is best captured by the Cost Per Tail Per Year (CPTPY) metric as opposed to the Cost Per Flying Hour (CPFH). The Air Force largely agrees with the Government Accountability Office's (GAO) findings about the current and future CPTPY estimates exceeding current Air Force budget projections. The Air Force does not agree with the GAO's recommendation, however, that we should reduce the program of record or flight hours at this time, for two reasons. First, as the GAO report notes, the Air Force program of record was designed to replace the F-16 and A-10 fleets, both of which we will continue to operate for many years to come. This gives the Air Force time to assess the progress of the many cost reduction initiatives, some in work, some yet to come, toward our $4.1M CPTPY affordability target. If we are not making adequate progress as the time nears for the retirement of the F-16 fleet, we could adjust the Air Force program of record or flying hours at that point. Second, adjusting the Air Force program prior to the ultimate F-16 retirement decision could have an impact on the F-35 program's international partnership and the agreement that governs F-35 cost sharing within the partnership.

VII Conclusion

The Air Force is proud of what our Airmen have accomplished with the F-35. We remain absolutely committed to the aircraft as the cornerstone of our and many other nations' combat air forces for decades to come. Much has been accomplished in the last 20 years in F-35, but much work remains. We are fully committed to working differently with other Department

of Defense stakeholders, the Congress, and our industry partners to get this right. It will take our best collective effort to ensure we provide tomorrow's Airmen with the tools they need to deter, compete, and win against increasingly aggressive and competent competitors.

As the program's most demanding customer, the Air Force requests your support in helping the F-35 enterprise deliver the capability, availability, and affordability attributes the Air Force, Navy, Marine Corps, and our Allies and partners need. As the program's staunchest advocate, I hope my testimony today will increase our collective understanding of the unique combat capability the F-35 provides the Nation today, and what we need it prepared to do tomorrow. I look forward to answering your questions during this important hearing.