

DEPARTMENT OF THE AIR FORCE  
PRESENTATION TO THE  
SUBCOMMITTEE ON READINESS  
COMMITTEE ON ARMED SERVICES  
UNITED STATES HOUSE OF REPRESENTATIVES

STATEMENT OF: Lieutenant General Donald E. (Gene) Kirkland  
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SUBJECT: The Department of Defense Organic Industrial Base: Challenges, Solutions and  
Readiness Impacts

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## **Introduction**

Chairman Garamendi, Ranking Member Lamborn, distinguished Members of the Readiness Subcommittee, thank you for the opportunity to provide you with an update on the Organic Industrial Base within the Air Force. On behalf of our Secretary, the Honorable Barbara Barrett, and our Chief of Staff, General David Goldfein, thank you for your continued support and demonstrated commitment to our Airmen, Air Force Civilians, Families, and Veterans.

From its inception, the United States Air Force has relied upon a strong organic industrial base to deliver combat air power second to none. The mission of the Air Force Sustainment Center is part of the culmination of that distinct history as it executes lethal air power through organic logistics processes; manages the global supply chain; and sets the theater as the engine of readiness. We directly support every combatant commander, service, and interagency partner, as well as partner nations with organic depot-level maintenance and supply chain management, and power projection for legacy and fifth-generation weapons systems.

Our nearly 40,000 Total Force Airmen are laser-focused on providing cost-effective sustainment and logistics capabilities within available resources and authorities. We develop ways to sustain legacy weapons systems using 21st Century processes. Our three Air Logistics Complexes provide depot-level maintenance, engineering support, and software development to numerous weapon systems. Our two Supply Chain Wings provide serviceable spare parts to meet dynamic warfighter needs while supporting global sustainment. And, our three Air Base Wings manage large installations and the infrastructure supporting our organic depots.

The Air Force Sustainment Center is our nation's aerospace readiness and war-sustaining insurance policy. We are proud to sustain America's first and most agile response to crisis and

conflict, underwriting every Joint operation. Our Air Force must continue to adapt and invest in the organic industrial base and sustainment enterprise to ensure we are ready to deter and defeat potential adversaries tomorrow. Among the many tools Congress has given us to meet this sober responsibility, recent action to expand civilian hiring authorities has been indispensable.

We still experience substantial readiness and sustainment challenges due to aging weapon systems further complicated by an aging infrastructure footprint that harkens back to the 1940s, a diminishing supply and manufacturing base, and a federal workforce hiring process that is improving but not yet conducive to supporting today's environment. Despite these significant challenges, the Air Force Sustainment Center provides state-of-the-art sustainment to our nation's diverse weapons systems –from the venerable B-52 and KC-135 to the most modern and technologically advanced systems like the F-35 Joint Strike Fighter, F-22 Raptor and looking ahead, the KC-46 Pegasus and B-21 Raider platforms.

In Fiscal Year 2019 (FY19) the Air Force Sustainment Center delivered 593 aircraft, 473 engines, 207,930 exchangeable parts, and 842 software packages. As rightly directed by key provisions of Title 10 of the U.S. Code, including Sections 2464 and 2466, it is a national imperative to have a robust organic industrial base supporting the nation's weapon systems. Without investments which assure lethality, restore readiness, properly fund and train personnel, and deliver cost effective adaptive infrastructure, we will rapidly lose our advantage.

### **Organic Industrial Base Plan Update**

On March 7, 2019, then-Secretary Heather Wilson submitted to Congress the Air Force's report entitled *Master Plan for Organic Industrial Base Infrastructure* to optimize and reset the Air Force to the 21st Century and beyond. That plan detailed four essential dimensions for

investment – depot equipment and technology; information technology (IT) infrastructure and industrial software; facilities for overhaul and final assembly; and repair/manufacturing nodes and hidden infrastructure (utilities and transportation grid) – to support weapons systems and capabilities that keep us ahead of our peers and near-peers.

We are the most advanced Air Force in the world. As we shift toward the “Air Force We Need” with air and space fleets that include fifth-generation and beyond capabilities, it is imperative that Air Force depots and the larger defense organic industrial base optimize opportunities to stay ahead of future missions. This also ensures we maintain compliance with Core (USC Title 10 §2464) and 50/50 (USC Title 10 §2466) mandates.

As stated in the report, the Air Force committed to conduct a detailed analysis resulting in a refined 20-year strategy with an implementation plan, organize and resource an enabling infrastructure business management office, and establish/leverage an enterprise governance oversight structure. We are updating our report with refined data and expect to conclude in late Calendar Year 2020. We have a well-functioning enterprise life cycle management governance structure that our organic industrial base progress can be monitored by senior Air Force leadership. We will address challenges by optimizing our piece of the Defense organic industrial base to cost-effectively meet warfighter requirements. The results of our analysis will be rolled up to the Secretary of Defense’s comprehensive strategy.

Second, we are collaborating closely with our NAVSEA, NAVAIR, U.S. Marine Corps LOGCOM, and Army Materiel Command counterparts to share lessons learned for generating a business case analysis supporting future investments.

Finally, we are moving toward an Air Force corporate strategy with a more effective long-range planning process and an organic industrial base modernization program that supports

it, to maximize the effectiveness of our six percent capital investment program strategy.

### **Condition Based Maintenance-Plus (CBM+)**

As the Air Force struggles with a diminishing supply and manufacturing base to support aging fleets, we are accelerating use of predictive analytics such as Condition Based Maintenance-Plus (CBM+) to minimize the time a weapon system is unavailable due to unscheduled maintenance. While the Air Force Life Cycle Management Center (AFLCMC) owns the CBM+ process, Air Force Sustainment Center stands to be a primary beneficiary by incorporating new learning into more precise supply chain forecasting and improved depot processes.

The Air Force is working toward two types of analytics to enable predictive maintenance. The first is sensor-based algorithm development, which uses on board sensors to identify degraded components or systems. The second is Enhanced Reliability Centered Maintenance (eCRM), which uses historical data and current discrepancies to enable data-driven decisions through component failure forecasting, as well as provide monthly forecasts for long-range maintenance planning. We already have several beneficial examples. Within the B-1B weapon system community at Tinker AFB, we have over 40 algorithms operating across four systems. Through these, CBM+ issued 24 recommended maintenance action alerts since October 2018. This resulted in 24 parts being removed from the aircraft before they failed, not only increasing aircraft availability, but also a more efficient supply chain.

Within the propulsion arena, we use prognostic algorithms on C-5, C-17, and KC-135 aircraft which monitor engine performance. This element of CBM+ has already generated data resulting in scheduled replacement of engines, avoiding mission-impacting, unscheduled

replacements while deployed. The Air Force is likewise using CBM+ on the landing gear for four weapon systems; the algorithms identify the top common drivers which would ordinarily lead to unscheduled maintenance downtime.

This and other data are now baked into our supply computations, generating longer-term efficiencies. We utilize the data to ensure the Air Force is doing the work required to improve mission readiness, increase aircraft availability, and reduce costs. Going forward, we will broaden the use of predictive analytics across Air Force platforms. The Air Force is partnering with commercial industry and academia to accelerate our learning. And finally, our larger Enhanced Reliability Centered Maintenance effort shows great promise to capture necessary data to guide our Digital Air Force initiative and improve decision-making.

### **Civilian Workforce Hiring Initiatives**

A key component of sustaining and modernizing legacy weapon systems is a trained and technically proficient depot workforce. One of the key elements in the 2018 National Defense Strategy is recruiting, developing, and retaining a high-quality military and civilian workforce. The Air Force Sustainment Center depends on a 78 percent civilian workforce; 89 percent if our contractor teammates are included. Our civilian Airmen serve and sacrifice for our nation as passionately as those who wear uniforms. As we evolve and adapt our weapons systems and concepts of operation, we must evolve and adapt our workforce. A fifth-generation Air Force requires a fifth-generation workforce. Requirements for a Science-Technology-Engineering-Math (STEM) educated workforce and advanced manufacturing and technical skills are ever increasing. Each weapon system we sustain brings with it an increasing requirement for software development and maintenance to perform almost every function on the aircraft, from

manipulating flight controls, interfacing with weapons, navigation and communication, and recording system health and status to name a few. Our need for scientists and engineers to sustain these software-intensive weapons systems is increasing dramatically. In addition to developing and sustaining new weapons systems, our engineers must also find ways to sustain our aging legacy systems. From understanding airframe stress, metallurgy, non-destructive inspection techniques, and reverse-engineered parts, it takes a talented pool of engineers to help us sustain our legacy Air Force. As we continue to sustain our legacy fleet, our civilian engineers are a pivotal component of readiness.

While recent authorities like Direct Hiring Authority (DHA) and Expedited Hiring Authority (EHA) have given us new tools for hiring strategies, there is an ongoing Air Force effort to continue to reduce hiring timelines. The ability to hire critical skill sets to sustain our Air Force is a strategic issue for national defense. Even so, we devote significant resources to recruiting efforts. Air Force Sustainment Center continues to look for ways to develop and deliver innovative enterprise-wide human capital strategies to drive precision recruitment and hiring sustainment. The use of DHA and EHA for the depots have allowed us to compete with industry to secure top talent. When we received the authority in FY17, the average flow days for our traditional hiring actions were 183 days. With the use of DHA and EHA, those actions now average 65 days. We rely almost solely on these hiring tools...92 percent of all external hires for Air Force Sustainment Center positions are hired through DHA. Thank you for your active role in obtaining these critical authorities and your continued support of extending their use.

Our workforce challenges are not just confined to engineers and scientists. We rely on a very large labor force of highly skilled technicians and mechanics who work in our depots and supply chain management. We are concerned our nation will not produce enough highly

skilled technicians to support the replenishment and increasing workload demands, and worry the Federal government will not be able to compete for the talent we need to recruit and retain a robust workforce. While we work very closely with vocational training centers surrounding our Air Logistics Complexes, they can only supply entry-level skills. The Air Force Sustainment Center would immediately benefit from creating an on-ramp for recently retired military personnel. These skilled journeymen provide vital, mature skill sets and years of experience that act as a buffer to develop our entry-level personnel. It is imperative for Air Force Sustainment Center to tap into these skills early and often in order to counteract retirements and support the right operational mix of candidates. A holistic approach to proactively solve this problem would be to make an exception for the 180-day waiting period in support of hiring federal wage system personnel and some lower level general schedule employees involved in the logistics and supply chain management categories. As it stands today, the 180-day waiting period continues to put Air Force Sustainment Center at a disadvantage against corporations competing for this experienced workforce.

## **Closing**

In every instance of crisis, the Defense organic industrial base provides solutions to meet unanticipated demands. The Air Force will need Congress's help with continued investments to meet the needs of an increasingly sophisticated...contested...and lethal...battlespace in the 21st Century. As the 2018 National Defense Strategy makes clear, there is need to "invest in modernization of key capabilities through sustained, predictable budgets." We are making generational decisions now. Adequate, consistent, and predictable funding to preserve, maintain, and modernize our critical logistics and sustainment capabilities underwrite our ability to



produce readiness that guarantees that we will win whenever and wherever our nation calls.

Thank you for your continued support to enable our Total Force Airmen to drive our Joint team's readiness.