Dr. Rebecca Grant
Testimony to the Seapower and Projection Forces Subcommittee
House Armed Services Committee
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Thank you for the opportunity to testify on the Fiscal Year 2015 Budget Request for Seapower and Projection Forces. My remarks will center on those U.S. Air Force systems at the heart of power projection and the role of the industrial base. This Congress has a special responsibility to consider the FY 2015 budget in light of accelerating changes in the international security environment. We are not in the world of five years ago, which was dominated by stabilization operations in Iraq and Afghanistan. Today there are visible threats and sources of instability from the East China Sea to the Crimea.

America's power projection forces must be ready to back up our diplomacy and lead our military operations whether in presence, deterrence, crisis response or conflict.

Americans have long counted on the air superiority that makes other forms of military operations efficient and effective. However, the USAF modernization path has been on rocky footing for some years. Members of this Committee have the chance now to take specific steps to ensure power projection forces are on a more stable path that will diminish risk and meet national security needs.

My principal concern is that the USAF be equipped and postured for a strong deterrent stance in the Pacific. Today this means preparing to retain air superiority, sea superiority and and freedom of maneuver even if forces of the People's Republic of China adopt a confrontational stance towards us or our allies, for example. China is not the only major power in the Pacific, but it is the one whose military is growing at the fastest rate – hence, it must take center stage when calculating long-term capacity and risk as we must do within defense planning.

Freedom of action in the Pacific demands highly sophisticated air forces, procured in sufficient numbers to act simultaneously, if required, on an arc from Australia through the Aleutians. Fortunately, the Air Force has the right priorities at the top of its list: F-35, KC-46 Pegasus and the new long-range bomber.

On F-35, it is in fact crucial to all power projection. This week the USAF announced fighter force reductions. Risk in the fighter force is already inherent due to aging and tactical obsolescence, the failure to acquire more F-22s, and the rise of anti-access air defenses consisting of advanced surface-to-air missiles and advanced fighters with high-performance air-to-air missiles. The primary risk ahead is not from reducing older forces, but from the slow F-35 acquisition. If our goal is to keep a lid on confrontations in the Pacific, this will demand the ability to deploy 24/7 fighter combat air patrols at multiple locations. The interim goal should be to

reach acceptance of the first 1,000 F-35s across the USAF, USMC and USN fleets as rapidly as possible. Originally, this goal was to have been reached around 2015. It will now not be reached until after 2022, assuming the USAF makes its ramp to 80 and the Department of the Navy buys at a combined rate of 48 for several years. Projection of force won't be successful without F-35 in high-end scenarios in years ahead.

The KC-46 Pegasus is an essential; without tankers, there is no global airpower for the USAF, USN, or USMC or most allies.

The new stealth bomber is rightly a top priority, for no other system offers the range of response options. Secretary of the Air Force Deborah James has indicated that the Request for Proposals may occur later in 2014. Historically, this means the program may be within 2 or 3 years of down-select. I see three risks with the bomber, which the Committee may want to consider now.

First is over-classification. In my opinion, the long-range bomber should not remain a black program now that it is nearing formal request for proposals. Of course, aspects of its technology will always be highly classified and they should be. But would we try to buy CVN-79 as a "black" program? Over-classification interferes with sound public consideration of the program.

Over-classification can also interfere with the cross-flow of technical expertise as the program begins. Right now, the top engineers and production specialists in industry are working on other programs, like F-35, F/A-18, etc. Restricting discussion of the bomber chokes off opportunities for wider problem solving within the cloister of the prime contractor teams. For example, the bomber design leads cannot call in the structures or cockpit pyrotechnics or stealth materials expert from the fighter line for a problem-solving session if he or she is not cleared into the "black" bomber program. This problem can impose unnecessary risks, such as leaving issues unsolved prior to preliminary design review and causing schedule delays as contractors go through the slow process of clearing engineers and production workforce for limited special access billets.

Second, is the technology scope right? The new stealth bomber must be built for a 40-year service life. Over time, it should be given the most advanced engine technology, prepared for directed energy weapons as defensive and offensive systems, and armed with hypersonic missiles among other weapons. This means planning now for an airframe with space, power, suitable engines, and cooling to allow adaptation. While controlling cost is key, there is no point in cutting corners to buy a bomber that is technology-limited within a decade. Fear of technical risk can't be solved by adhering to cost targets alone. It takes sound evaluation of risk levels at preliminary and critical design review.

Third is quantity. This bomber must replace the B-1, B-52 and B-2 totaling 162 aircraft. The problem with a quantity of 80 to 100 is that we want this bomber force

to be able to generate 30 or more sorties per day at maximum capacity. This is to cover multiple target areas, in two widely separated theaters. Precision weapons are a given but bombers cannot be in two places at once. A sizeable force is necessary to hold at risk mobile targets because they are hard to locate. The force must also be sized for persistence: in this case, that means the ability to strike repeatedly, day and night. For reference, the USAF deployed 66 B-52Gs in 1991 for Operation Desert Storm and flew an average of 40 sorties per day (ranging from 27 on 20 Jan 91 to a high of 51 on 11 Feb 91. Data is from the Gulf War Air Power Survey, Volume 5, pages 22 and 246.) Hence, 100 aircraft should probably be the minimum number, and up to 200 would not be unreasonable.

Although this is outside the scope of this subcommittee, I applaud the USAF's decision to protect its Red Flag exercise. Power projection is also about preparation for the US and the chance to work with allies which Red Flags provide.

The Industrial Base

The broad commercial aerospace industrial base is healthy and globalized. However, military capability rests on a surprisingly narrow base of primes and suppliers who develop and build our nation's most advanced capabilities. From the 1950s to the 1990s the industrial base stayed healthy with multiple new program starts, competitions and fly-offs. In the 1950s, 54 new fixed-wing combat aircraft programs were started by the departments of the Air Force and Navy. People – who are the real industrial base – worked on a variety of programs, gaining skills from each.

In the 2000s, the number of new combat aircraft starts fell to 9. Managing technological evolution by volume alone is no longer working.

The industrial base for combat aircraft demands four very specific strengths. The first three are critical skills in aircraft design; qualified Tier 1 suppliers; and sustaining engineering across the life cycle of a weapons system. I am concerned by a trend towards moving sustainment work from original manufacturers to government depots for fear it will cut out the essential sustaining engineering work which has up to now resided mainly with the original manufacturers.

The fourth requirement in the industrial base is for competitive primes with managers who have gained experience across multiple programs. The drop in aircraft program new starts has diminished opportunities to grow production and management workforces. The dearth of space programs has taken away another source of industry experience. The industrial base still needs managers skilled in the work of system development across the lifecycle, from cultivating new technologies to shaping customer requirements to realistic critical design review to execution of operational test and evaluation and logistics concepts.

In addition, combat aircraft engines are a highly specialized segment of the industrial base. While this work is well-protected by current law that restricts most

work to US suppliers, the real obstacle is getting new high-performance military engines a “ride” in the form of new aircraft. The military combat engine business is a government-dominated market and it is up to the government to continue investment in this critical technology edge. One could hardly spend too much money on basic and applied engine research if we intend to remain a power projection nation.

The new stealth bomber is extremely important to the industrial base. However, that program will soon be wrapping up its design phase. The most important steps this nation can take will be to carry on significant investment in adaptive engine technology and to begin concept definition work for the so-called 6th generation fighter.