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Fiscally Sound Options for a Flawed Tanker Recapitalization Strategy

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The United States remains the only nation able to project and sustain large-scale military operations over extended distances. We maintain superior capabilities to deter and defeat adaptive enemies and to ensure the credibility of security partnerships that are fundamental to regional and global security. In this way, our military continues to underpin our national security and global leadership, and when we use it appropriately, our security and leadership is reinforced.

—President Barack Obama
National Security Strategy, May 2010

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The current US economic crisis brings a national impetus to reduce government deficit spending, an undertaking of great importance; indeed, both the legislative and executive branches have taken immediate action in fiscal year (FY) 2011. This fixation on fiscal responsibility will surely include the previously sacrosanct defense budget, which set record highs and nearly doubled with wartime supplemental defense spending since the terrorist attacks of 11 September 2011.[1] With the Department of Defense's (DOD) fixed costs at an all-time high and recapitalization requirements in every direction, the challenge to win two wars and reset for the next contingency in a fiscally constrained environment demands innovative leadership at every level.

The top recapitalization priority for the US Air Force is replacing the 50-year-old KC-135 tanker fleet, a force multiplier critical to US military power projection. Aerial refueling represents a single point of failure for any rapid global mission, a capability critical to the DOD's joint force. The latter depends on the tanker to enable global reach and rapid global response, essential tenets of the US national security strategy. Unfortunately, the existing road map for recapitalizing the aging KC-135 fleet is untenable, and senior leaders have estimated that the last aircraft will not be replaced until it is more than 100 years old. From a pure time perspective, this would be analogous to flying the Wright Flyer in combat today! Given the pressures from budget constraints and the national deficit reduction, the DOD must seek alternatives for expediting recapitalization.

The Tanker Recapitalization Challenge

Simply put, America's National Security Strategy, built on the imperative of world-wide engagement, demands nothing less than the best global transportation system the world has ever known, one capable of projecting U.S. strength and resolve—anywhere, anytime.

—Gen Charles T. Robertson Jr.
Former Commander
Air Mobility Command and
US Transportation Command

An important linchpin to US military hegemony, the tanker enables joint and coalition forces by facilitating power projection over long distances, guaranteeing access to any location in the world. According to Gen Raymond Johns Jr., commander of Air Mobility Command, without the tanker, America could not execute the Air Force's core competencies of global vigilance, reach, and power.[2] For example, during FY 2010, the KC-135 fleet enabled combat power in Iraq and Afghanistan by air-delivering 255 million gallons of jet fuel to a host of Air Force, Navy, Marine, and coalition aircraft.[3] During congressional testimony, Gen Duncan McNabb, commander of US Transportation Command, reiterated the importance of air refueling: "My number one recapitalization priority is replacing the fleet of 415 Eisenhower-era KC-135s with a new platform to preserve a unique asymmetric advantage for our nation."[4]

Regrettably, KC-135 recapitalization (commonly referred to as KC-X acquisition) has been one of the most controversial, political, and ineffective acquisition programs in Air Force history. It had unconventional beginnings as an unsolicited lease proposal from Boeing in 2001, receiving congressional approval before the Air Force had validated or budgeted the requirement.[5] Following significant congressional oversight, KC-X acquisition underwent a competitive bidding process in 2008, won by Northrop Grumman / European Aeronautic Defence and Space Company (EADS); a protest in 2008 cancelled the award, which underwent competitive bidding again in 2009.[6] The failed awards in 2001 and 2008 were nullified by indictments for corruption and errors made during bid evaluations, respectively, events that highlighted serious flaws

in the Air Force acquisition process. In the latest gaffe (2010), procurement officials mistakenly returned confidential data to rival bidders, resulting in further delay.[7] Finally, after nearly 10 years of recapitalization efforts, the Air Force successfully awarded a $31.5 billion contract to Boeing in February 2011 to build 179 KC-X aircraft.[8]

However, this acquisition falls 236 aircraft short of recapitalizing the entire KC-135 fleet. From a capability standpoint, the Boeing replacement, dubbed the KC-46A (Boeing 767), is a modern, cost-efficient, and versatile aircraft, capable of multipoint refueling of joint and coalition aircraft, cargo and passenger airlift, and aeromedical evacuation missions.[9] The KC-46A has significantly more airlift capability than the KC-135 and meets current DOD joint doctrine requirements for refueling platforms to augment the airlift fleet. Most importantly, it delivers 1.14 to 1.38 times the air-refueling capacity of the KC-135.[10] Additionally, Boeing's KC-46A carries 190 passengers and 19 bulk cargo pallets; the KC-45 (Airbus A330-200), the aircraft of losing competitor EADS North America, carries 226 passengers and 32 pallets.[11]

Former secretary of defense Robert Gates affirmed that US strategic strength is linked to the fiscal health of the nation and that "the Department of Defense's track record as a steward of taxpayer dollars leaves much to be desired."[12] Since the DOD budget accounts for more than half of federal discretionary spending, Congress has begun to scrutinize defense spending more closely to find savings for debt reduction.[13] Secretary Gates also emphasized the fact that future DOD budget growth will stop. Zero growth, together with the increasing cost of energy, operations, and sustainment, will disproportionately affect future procurement accounts. Significantly, the DOD budget crisis has no end in sight, a menacing hurdle for future acquisition programs. These programs include timely recapitalization of the remaining KC-135 fleet, which continues to operate at great expense and risk.

Lengthy KC-135 Recapitalization Timeline

The KC-X acquisition strategy does not recapitalize the KC-135 fast enough, adding risk to an aging fleet. In 2007 Gen Arthur Lichte, commander of Air Mobility Command at that time, said, "If the [KC-X] program runs into any problems and slips by just three years, and Air Force officials are unable to procure 15 aircraft a year, the last KC-135 will retire in the year 2082, when it is more than 120 years old."[14] The KC-X award did in fact slip nearly three years since the general's statement, so the Air Force faces the prospect of flying a 50-year-old tanker another 70 years.

To the DOD, gaining initial operational capability of the KC-46A offers the most pragmatic solution for beginning KC-135 recapitalization. Regrettably, current budget constraints limit recapitalization funding to $3.5 billion annually, allowing for a maximum procurement rate of 12 to 18 aircraft per year.[15] Even if the Air Force took delivery of the KC-X tomorrow, the last KC-135 would be flying for over a century, a strategy full of risk and expense. Some KC-X advocates would like to see the KC-135 in a museum, not on the front lines of combat for the next 35 to 70 years. Many members of Congress and DOD personnel are well aware of this reality, but attempts to shorten the timeline have not been productive.

To recapitalize the fleet more quickly, the DOD investigated split-buy acquisition options to contract KC-X aircraft from both Boeing and EADS. The budget-limited strategy of 12–18 aircraft annually is also a minimum economic order of quantity (EOQ), which allows bidders to size production and validate cost to produce aircraft on time and within budget. A DOD budget allowing a higher purchase rate would lower the unit price of aircraft, and recapitalization would proceed more quickly. Although a split buy with minimum EOQs does not represent a best-case scenario for the Air Force, it would prove beneficial for the competitors, each of which has a considerable

stake in the defense industrial base, since both would build KC-X aircraft. Boeing will employ 44,000 US workers from 300 US suppliers, and EADS estimates that aircraft production would create 48,000 direct and indirect jobs from 230 suppliers in 49 states.[16] Michael Wynne, former secretary of the Air Force, noted that the cost of a split purchase "would be prohibitive, unless there was sufficient funding to essentially buy between 24 and 30 [annually]."[17] The DOD lacks not only up-front funding for a split purchase but also the sustainment budget for dual maintenance, training, and logistics support systems.

Costly Recapitalization Strategy

Under current Air Force maintenance practices, sustaining fleet reliability standards as the KC-135 ages will be exorbitantly expensive. Projections indicate maintenance costs will increase to $6 billion yearly over the next decade, well over the annual $3.5 billion budgeted for KC-X procurement.[18] Even congressional appropriation language acknowledges it is "in the best interest of the taxpayer to pursue recapitalization at a rate of 36 aircraft per year . . . [to avoid] a large sustainment and modernization cost of the legacy KC-135 fleet."[19] The Air Force maintains fleet availability at a mission capable rate of 81 percent but not without significant cost.[20] Considering the fact that the average age of the US commercial airline fleet is 12 years, with reliability rates in the high 90s, maintaining a 50-year-old KC-135 at this rate is a remarkable feat.[21] Maintenance expenses continue to grow, largely as a result of costly corrosion damage. During FY 2010, nearly 20 percent of the KC-135 fleet (81 aircraft), spent an average of 227 days in depot-level maintenance.[22] However, the growing amount of depot time spent repairing corrosion and landing-gear problems represents only half the story. The time devoted to flight-line repairs (non depot maintenance) increased over the last several years to 12.5 maintenance man-hours per flying hour in FY 2010.[23] With such personnel at a premium in the Air Force, maintaining a KC-135 necessitates more than double the manpower per flying hour than the larger but more modern C-17.[24]

Along with burgeoning maintenance costs looms significant risk of the unknown regarding the length of time that metals used in production of the KC-135 fleet will endure. In 2006 the RAND Corporation completed an analysis of alternatives for KC-135 recapitalization, concluding that insufficient data existed for projecting the KC-135's technical condition over the next several decades with high confidence.[25] Similarly, the Defense Science Board concluded "that corrosion [did not pose] an imminent catastrophic threat to the KC-135 fleet. . . . However, because the KC-135s are true first generation turbojet aircraft . . . concerns regarding the ability to continue operating these aircraft indefinitely are intuitively well founded."[26] Following a KC-135 crash in 1999, which killed the crew and destroyed the airplane, the Air Force grounded 40 percent of the fleet for six months while it inspected and repaired faulty stab actuators, which caused the flight-control malfunction.[27] A similar grounding of the KC-135 fleet today would severely jeopardize the capabilities of DOD joint and coalition forces, particularly for landlocked operations in the Middle East.

The lengthy KC-X acquisition timeline will also cost the Air Force more in future maintenance expenses for both KC-X aircraft, which represent a first-generation wide-body, twin-engine design from Boeing and EADS. The Boeing 767, first produced in 1978, is approaching the end of its commercial life because customers find modern, fuel-efficient aircraft more attractive.[28] The Defense Science Board concluded that "obtaining an aircraft nearing the end of its production run, coupled with very low procurement rates and an expected service life of several decades, there is a good possibility that repair parts and infrastructure will become scarce and exceedingly expensive."[29] This is another area that the DOD

and defense industrial base must resolve by employing industry best practices.

Untapped Industry Best Practices

Former secretary of defense Gates called for tighter scrutiny of all defense spending, seeking $100 billion in savings over the next five years. The focus areas for saving emphasize efficiency in the contracting of goods and services, which account for $400 billion of the DOD's annual budget of $700 billion.[30] His original plan allowed the services to keep their savings and apply them to critical areas such as force structure and procurement.[31] The secretary changed this guidance, directing the services to apply a portion of the savings to pay for increased operation and maintenance (O&M), leaving less for acquisition programs.[32] As requirements continue to exceed funding, the DOD must leverage acquisition strategies that work. Dr. Ashton Carter, the Pentagon's chief acquisition official, summarized the problem: "The department must achieve what economists call productivity growth: Learning to do more without more."[33] Affordable acquisition strategies built on valid requirements that deliver capability on time and within budget must be the rule, not the exception.

The future success of US military forces will depend upon a military industrial complex capable of meeting DOD requirements and delivering capability on time and within budget. The quid pro quo relationship between the DOD and the US defense industrial base is becoming more strained, and the deficit reduction climate presents more challenges. Maintaining America's military dominance demands that the defense industrial base retain a skilled workforce and sustain its investment in military platforms.[34] KC-135 recapitalization offers an opportunity to strengthen the industrial base while the DOD benefits from commercial competition. More importantly, KC-X aircraft will become more cost-effective because of their link to a commercial production line. Building military capability from an existing commercial platform offers a sound strategy for a defense industrial base replete with a record of cost overruns and schedule delays. To illustrate, over the last decade, the Air Force managed a preponderance of the DOD's 74 major acquisition programs, which exceeded cost-growth limitations and triggered Nunn-McCurdy congressional reporting, a mechanism for informing Congress of cost overruns in major acquisiton programs.[35] We must reverse this trend, beginning with improving trust and accountability between DOD acquisition officials and industry. The reality of fewer resources and more requirements means that, to recapitalize the KC-135 fleet, we must partner with industry to take advantage of the best commercial acquisition and maintenance practices.

The KC-135 recapitalization plan primarily emphasizes bringing the KC-46A online but does not address problems associated with keeping the legacy fleet flying for another 30 years or more. Because the KC-135 will remain the backbone of air-refueling service well into the future and because nearly 20 percent of the fleet is in depot-level maintenance every year, the Air Force must leverage commercial maintenance methods to increase aircraft availability and decrease cost, thereby preserving mission capability. Industry experts have experience maintaining the older Boeing 707 platform (the commercial sibling of the KC-135) through commercial programs that match the quality of the Air Force's organic and contract depots—but at a fraction of the cost and fewer days in depot.[36] Furthermore, the DOD would do well to investigate another existing commercial program—civilian contract air refueling, otherwise known as fee-for-service air refueling.

Faced with an aging tanker fleet of 19 aircraft, more tanking requirements than capacity, and limited money to recapitalize, the United Kingdom finds itself in a situation similar to that of the United States. The United Kingdom looked to the commercial aviation industry by contracting for the Future Strategic Tanker Aircraft program, a

privately financed initiative with the consortium group AirTanker Limited, to provide a new fleet of 12 Airbus A330-200 multimission tankers/airlifters.[37] The United Kingdom pays a fee for service—specifically, AirTanker's provision of air-refueling and airlift capacity for 27 years and its payment of all capital costs, including infrastructure modifications to the host UK airfield.[38] The United Kingdom will retain permanent access to nine aircraft and will make the other three available for commercial use by AirTanker, which may offer them to other governments. The Future Strategic Tanker Aircraft business model may serve as a productive baseline for a DOD fee-for-service option, especially since that program's aircraft is the same basic platform as EADS's KC-X candidate.[39]

The Failure of Recapitalization Strategy to Meet the Required Force Structure

The DOD does not have adequate air-refueling capability to meet today's requirements, and the KC-X acquisition plan does not ameliorate the problem. The DOD's *Mobility Capabilities and Requirements Study* of 2010 (MCRS-16) examined three representative scenarios that employ mobility assets, finding the DOD tanker fleet 93 aircraft short of meeting requirements in the two most constrained cases.[40] In addition, a recent Government Accountability Office (GAO) review of the MCRS-16 concluded that planned recapitalization rates would not correct the tanker shortfall for the analysis period (2010–16).[41] The delay of KC-135 recapitalization for nearly 10 years further exacerbates the problem by driving up lost opportunity cost in dollars and risk.

Unfortunately, the Air Force cannot depend on maintaining current reliability rates as the KC-135 fleet ages; moreover, no quantitative analysis assesses the risk of operating a 50-year-old fleet into the future. The GAO report also found (and the DOD confirmed) that no tanker risk assessment was performed for the air-refueling portion of the MCRS-16 (a requisite of the study objectives).[42] While the future reliability of US air refueling clearly remains at risk, our closest near-peer competitor (China) is building a force of stealth fighters having an operational date of 2017.[43] Most disconcerting is China's nascent tanker fleet, which will soon give that country's stealth fighters unlimited range.[44] The DOD's tanker force structure also seems uncertain, specifically in terms of determining the gap between tanker requirements and capabilities. Although the MCRS-16 quantifies a tanker shortfall, which DOD officials confirmed in testimony before Congress, the GAO review of MCRS-16 notes that "DOD officials responsible for the [MCRS-16] report told us that a tanker shortfall *does not* exist despite the language and data in the report" (emphasis added).[45]

The Air Force cannot afford to procure KC-X aircraft fast enough to replace aging KC-135s one-for-one. Solving the tanker shortfall involves more than dispatching a more capable airborne gas station—we must also put enough gas stations in the air. In FY 2008, the Air Force proposed to Congress a money-saving case to retire the oldest and most costly KC-135E aircraft. To keep the E models flying would cost approximately $45 million each to reengine, a hefty sum compared to the $120–$150 million procurement cost of a new tanker.[46] To save money, the Air Force accepted risk by dropping below the required force structure, retiring the entire KC-135E fleet.

Recommendations

Granted, the Air Force has a valid need to recapitalize an aging KC-135 fleet, but abject events—including the delayed KC-X acquisition, a limited budget, and shrinking defense spending—must drive a new look at the tanker fleet structure as well as a holistic review of the recapitalization strategy. The service's leaders must investigate options that leverage innovation, efficiency, and capital budgeting of the commercial aviation industry. Two such options entail a

force structure shift from a completely organic tanker fleet to a mix of civilian contract tankers and military aircraft, with the bulk capacity remaining in the Air Force's organic fleet. Both options capture aviation industry's strengths and bring more capability at lower cost. The service could award a fee-for-service competitive bid contract for either alternative. Most importantly, either choice expedites KC-135 recapitalization, augments the DOD's organic fleet, and provides savings in manpower and equipment. An absolute prerequisite for the success of either option calls for proceeding with rapid acquisition of 179 KC-46A aircraft. A final general recommendation that applies to future recapitalization efforts involves partnering with industry to innovate and build accountability.

KC-X Commercial Option: A Functional Split Buy

One option involves a contractor purchasing KC-X aircraft, assured of a guaranteed number of DOD flight hours annually on a fee-for-service basis. This plan enables a cathartic split-buy opportunity sure to gain approval from Congress and interest from the defense industrial base. Even as the losing KC-X bidder, EADS would win by selling fee-for-service refueling to the Air Force. Additionally, Boeing could sell KC-46As to a commercial contractor, ramping up production to more cost-efficient quantities beyond the minimum EOQ it will build for the Air Force.

In 1998 US Transportation Command investigated a civilian contract air-refueling option but rejected it as "meet[ing] no significant wartime requirement and provid[ing] no cost benefit to the services."[47] Today, a commercial KC-X variant represents a tremendous *fiscal benefit* for three reasons. First, a fee-for-service option will be cheaper than new organic capability because a contractor amortizes capital costs over time, employs economical commercial maintenance practices, and has lower operating costs than the Air Force. Additionally, the service will realize manpower savings because the contractor will bear all O&M and sustainment costs. Second, a KC-X commercial derivative brings additional capability faster, allowing the Air Force to retire KC-135s sooner, saving O&M costs, and reducing the risk associated with operating an aging fleet. Third, the defense industrial base gets a boost during a recession by generating another customer.

From a political, economic, and national security perspective, a split buy with a fee-for-service contractor is a credible scenario. Many key congressional leaders have advocated such a strategy but were deterred because the DOD considered it fiscally irresponsible. However, because the fee-for-service contractor would pay for long-term aircraft costs associated with a dual acquisition strategy (for training, maintenance, and logistics), a dual fleet presents less of a challenge for the Air Force. Furthermore, a split buy that involves a civilian contractor procuring aircraft from competing manufacturers promotes price competition and puts more Americans to work.

Finally, a KC-X commercial option does not presuppose a split-buy solution. Certainly Boeing could add aircraft beyond the EOQ to its KC-46A production line and offer a cost-efficient option to a commercial contractor. Moreover, this strategy would give Air Force Reserve and Air National Guard operators of the KC-46A opportunities as civilians to fly and maintain a commercial version for a contractor. This scenario appears especially practical in terms of operations, cost, and risk.

KC-135 Commercial Option

Retired KC-135Es could add commercial capability to the Air Force. In 2009 the Air Force retired the last KC-135E after 51 years of service, relegating it to the "boneyard," where the aircraft sits with 73 other E models, ready for reactivation if necessary.[48] Establishing a competitive-bid fee-for-service contract for industry to upgrade retired KC-135s and sell air-refueling service to the

DOD saves up-front capital cost, manpower, and maintenance—not to mention the fact that it quickly adds capability.

Omega Air Refueling (a commercial contractor) has already proved the business case for using a civilian tanker to fulfill military requirements. Omega provides worldwide fee-for-service probe-and-drogue air refueling to a host of customers, including the US Navy, US Marine Corps, Germany, Canada, Australia, and the Royal Air Force.[49] Paid through the Navy's flying-hour program, the contractor offers capability on par with the KC-135 and KC-10 at a rate of $7,890 per flying hour for its (KC-135 equivalent) KC-707 and $12,500 for its (KC-10 equivalent) KDC-10.[50] Omega's fee-for-service rates are nearly the same as the cost of similar probe-and-drogue air refueling conducted by the Air Force, but the contractor has supported the Navy when the Air Force could not.[51] Also at the cutting edge of commercial-practice maintenance schedules on older Boeing 707 airframes, Omega employs an inspection and depot schedule that significantly reduces down time and cost, compared to the practices of the Air Force's KC-135 depot.[52] Perhaps most importantly, Omega serves as a model for safety and the successful integration of standardized operations between military and commercial aircraft.

The Air Force needs to take advantage of commercial aviation's best practices for wide-body aircraft technology, maintenance, and operations. One of many commercial contractors with extensive experience using older aircraft innovatively and efficiently, Omega currently has the capital, equipment, and technology to offer fee-for-service air refueling to the DOD at a lower cost per flying hour than the Air Force's organic fleet.[53] Additionally, it has paid for the Federal Aviation Administration's supplemental type certification to alter the KC-135E and owns proprietary rights to a new commercial maintenance program for modernizing engines and avionics on that aircraft.[54] Furthermore, Omega will supply boom service on worldwide operational or training missions, just as it currently does for the Navy.

Several industry experts determined that businesses can make a favorable case for spending commercial capital to upgrade legacy KC-135E components and then recouping costs by charging a fee-for-service rate competitive with the Air Force's hourly flying costs.[55] However, the service has been reluctant to establish a commercial fee-for-service air-refueling capability. In previous discussions with industry, the Air Force identified several areas in need of attention prior to development of an air-refueling pilot program—key among them obtaining congressional funding approval for an eight-year contract and certification of a commercial boom.[56] Congress recently showed its willingness to support such a concept, directing the DOD in the FY 2008 National Defense Authorization Act to investigate fee-for-service options for air refueling.[57] Though not considered, the option to transfer or sell a KC-135 to a contractor now appears to offer an economical and pragmatic opportunity to save money in developing and certifying a commercial boom. Despite the Air Force's past concerns, it now has a chance to embrace aviation industry contractors eager to suggest innovative, cost-effective commercial options for air refueling.

In light of the new multirole tanker/transport aircraft available on the commercial market today, US Transportation Command should investigate alternatives for a commercial air-refueling capability similar to that established for airlift in the Civil Reserve Air Fleet. Adding tanker capability to that fleet is not a revolutionary concept. In 1997 Transportation Command formed a Contract Aerial Refueling Working Group to explore commercial air-refueling options.[58] Without an established requirement, however, the group did not pursue the fee-for-service model. Since then, requirements and technology have undergone significant change while the KC-135 fleet has aged 14 more years. A KC-X would easily be the

most capable aircraft in the Civil Reserve Air Fleet, perhaps worthy of a premium.

Partnering with Industry for Innovation and Accountability

The Air Force must leverage commercial aviation's best practices throughout the aircraft life cycle, from initial cost estimating to maintenance procedures. Additionally, and perhaps most importantly, the service should build mutual trust and accountability with industry partners—a difficult but attainable goal in an environment which encourages innovation and creativity. Such a strengthening of relationships begins with bringing the purchase of 179 KC-46As online, on time, and within budget. However, the initial KC-X buy represents recapitalization of only one-third of the fleet, leaving the Air Force more opportunity to partner with industry to create more capability at a lower price. Industry, the DOD, and Congress continue to work through many acquisition challenges in which cutting-edge research, development, and testing of new technologies still result in more requirements and higher costs, accentuated by delayed delivery. For example, the $382 billion F-35 acquisition is behind schedule, and expenses have nearly doubled—from $50 million per aircraft to $92 million.[59] Compared to the F-35 program, KC-X acquisition remains relatively low risk, especially considering that versions of both KC-X tankers are in operation today using probe-and-drogue technology. Japan and Italy operate Boeing KC-767s while Australia, Britain, Saudi Arabia, and the United Arab Emirates purchased EADS's KC-45s.[60] Successful acquisition of the KC-46A is critical to follow-on KC-135 recapitalization plans, which replace the remaining two-thirds of an aging KC-135 fleet at an estimated cost of over $100 billion.[61] Adopting industry best practices and holding contractors accountable throughout the entire research, design, testing, and production process should not be limited to new acquisitions. Since the KC-135 will remain the backbone of the air-refueling fleet well into the future, the Air Force also needs to adopt proven commercial maintenance and depot practices to gain efficiencies and reduce maintenance costs. Partnering with the aviation industry to leverage commercial best practices takes innovation and leadership, but opportunity abounds.

Air refueling is a critical joint force capability. In terms of enabling global operations, it is as important as the air we breathe.

Conclusion

Air refueling is a critical joint force capability. In terms of enabling global operations, it is as important as the air we breathe. Without it, the joint war fighter cannot execute the US national security strategy. To maintain viability, the Air Force needs to make tough choices with respect to tanker force structure and future recapital-

ization of the KC-135. The service should investigate a commercial KC-X air-refueling option that leverages industry's capital budgeting and meets requirements at a fraction of the cost of a fully recapitalized KC-135 fleet. A commercial option represents the only way to facilitate a split buy with two capable multirole tanker/transport commercial platforms available. The Air Force and US Transportation Command should revisit the economics for a tanker Civil Reserve Air Fleet or similar fee-for-service options. Finally, given the fierce competition for shrinking DOD budgets, the proposed options would free scarce resources to recapitalize the KC-135 more quickly and would provide economical, reliable capability. Former secretary of defense Gates said it best: "My hope and expectation is that . . . what had been a culture of endless money where cost is rarely a consideration will become a culture of savings and restraint."[62] If America wishes to attain *physical* security, it must have *fiscal* security. Facing long-term deficit-reduction challenges, the DOD must lead the way by thoroughly validating joint requirements and exacting fiduciary responsibility for future acquisitions, measured against the same yardstick as the rest of government spending. Doing so demands innovative and accountable leadership at every level. ✪

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