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Protest of The Boeing Company Under Request for Proposal No. FA8625-07-R-6470

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The Boeing Company (Boeing) respectfully protests the Department of the Air Force's (Air Force) award of the "Tanker" contract pursuant to Request for Proposals (the RFP or the Solicitation) No. FA8625-07-R-6470 to Northrop Grumman Corporation and its European counterpart EADS (NG/EADS).

I.
INTRODUCTION

Throughout the course of the KC-X acquisition process, the Air Force has emphasized the fair and open nature of the competition, the exceptional transparency of its process, and the fact that the parties have known "exactly where they have stood all along in all of the various factors as we were evaluating them." Remarks of Secretary Sue Payton, DoD News Briefing with Secretary of the Air Force Michael Wynne, February 29, 2008 (February 29 Press Briefing). Indeed, at that briefing, Secretary Payton categorically stated that "[t]here was absolutely no bias in this award." Contrary to the Air Force's assessments, however, the record shows that the KC-X acquisition process did *not* produce a fair and open competition. Rather, the process became driven by the Air Force's determination to create the *possibility* for competition between two planes that offered dramatically different capabilities, only one of which matched what the Air Force had said it wanted. In the end, the Air Force changed its direction, skewed the competition *against* Boeing and *in favor of* Northrop Grumman/EADS (NG/EADS), and awarded a contract for a plane that did not satisfy its own bid requirements. The result was a contract award that is fundamentally unfair not only to Boeing, but to the warfighter and the American people.

The Air Force issued a Request for Proposals (RFP) designed to replace the KC-135, a medium-sized tanker. Boeing offered its 767 as a right-sized replacement platform tailored precisely to the Air Force's stated requirements, proposing a plane that offered the lowest risk, the lowest Most Probable Life Cycle Cost, and the most capability, as measured by the RFP. NG/EADS offered the only platform it had available—the much larger KC-30, which due to its size and EADS' production methods could not comply with essential aspects of the RFP. Due to continuing pressure from Capitol Hill and NG/EADS, however, the bid process became driven by the Air Force's determination to keep NG/EADS in the competition. As time went on, the Air Force repeatedly made fundamental but often unstated changes to the bid requirements and evaluation process, in order to enable the NG/EADS proposal to survive. The result was not a fair and open competition, but a skewed process that unfairly compromised Boeing's proposal.

This distortion of the procurement process resulted in the Air Force awarding a critical defense contract to a competitor that has never delivered a tanker equipped with an operationally fielded aerial refueling boom, the critical device for refueling aircraft in flight. Boeing offered a proposal based upon (i) its 75 years of unparalleled success producing tankers for the U.S. Government (many of which are still flying 40 years after entering service), and (ii) the proven success of its innovative commercial in-line production process, performed by skilled workers at established plants. But the Air Force bypassed Boeing's offer, which provided the best value and performance to the mission at the lowest risk, for a plane that offered an illusory cost benefit fueled by EADS' reliance upon illegal foreign subsidies. Moreover, the NG/EADS plane poses a substantially higher production risk: it is to be built by a company with an incomplete and unstable intercontinental production plan, which has not yet delivered a single tanker that has actually transferred fuel in flight through a boom. Yet, Boeing received no credit by the Air

Force for its vast experience building tankers or the value afforded by its innovative commercial production processes; indeed, it was *penalized for them.* Meanwhile, the Air Force extolled the excess fuel offload and airlift capability of the KC-30—overlooking the obvious costs associated with that unneeded capacity—and apparently discounted the risks inherent in the NG/EADS development and production plan.

The Air Force's efforts to preserve NG/EADS' ability to bid skewed the acquisition process in several different ways. As noted, the Air Force issued an RFP to replace its KC-135, a medium-sized tanker, with an agile, medium-sized tanker that could operate well in hostile environments and from small, bare-based airfields, thereby placing more "booms in the air" close to the fight. In response, Boeing offered its KC-767, a plane with proven technologies carefully tailored to satisfy the mission-critical requirements identified by the Air Force. Because of lobbying by NG/EADS during the competition, however, the Air Force changed fundamental bid requirements to enable the KC-30 to compete, and ended up awarding the contract to a plane that is *double* the size of the KC-135 and *27 percent larger than the KC-10*, the jumbo-sized tanker that was to be replaced in a subsequent procurement. For example, bowing to threats from NG/EADS that it would withdraw from the competition unless changes were made to the Integrated Fleet Aerial Refueling Assessment (IFARA) model (a model created and maintained by Northrop Grumman), the Air Force twice made changes relaxing key mission scenario assumptions to eliminate real-world constraints with which the KC-30 could not comply. Thus, the Air Force's revised model ignored the maximum number of tankers that could physically fit at a given airbase; calculated maximum take-off weight and fuel using the highest runway strength at any given base instead of the lowest, and made other changes to favor the much larger plane. When Boeing expressed concern about the unfairness to its proposal of these changes, it was reassured by the Air Force that the final evaluation would credit the KC-767's ability to operate under the real-world constraints identified in the original model. The debriefing, however, proved otherwise. The Air Force's modification of the model to include fictional assumptions so that the oversized KC-30 could even complete some of the required scenarios perversely resulted in a significant advantage to NG/EADS on its IFARA score.

If Boeing had been told that the Air Force wanted a large-scale tanker, it could have offered the 777 platform. The RFP did not call for a jumbo-sized tanker, however, and Boeing was led to believe that its 767 was the appropriate platform to offer, since it appeared to answer precisely the Air Force's original objective of replacing the KC-135. Boeing was understandably shocked, then, at the February 29 Press Briefing, when the Air Force stated that the NG/EADS bid was chosen because it offered the capability to transport "more passengers, more cargo, [and] more fuel." This conclusion is contrary to the requirements stated in the RFP, flies in the face of what Boeing was led to believe the winning proposal should provide, and directly contradicts the Air Force's assertions about the openness and transparency of this procurement.

Likewise, the Air Force veered from the production and certification requirements for the procurement. The RFP required "an efficient, prudent risk" approach that should have favored Boeing's approach, which employed a single company, low-risk, integrated manufacturing process, with skilled employees and a thorough FAA certification procedure already in place. Once again, the Air Force deviated from the original mission to choose the NG/EADS approach, which features a development and production process by which EADS will hopscotch through

Europe to produce some planes; send others to Florida for production; and ultimately posits that planes will be produced in Mobile, Alabama, at facilities that do not yet exist.

Moreover, the Air Force's evaluation of Boeing's cost and pricing data for the KC-767 was fundamentally improper and inadequate. The Air Force's KC-X acquisition strategy called for offerors to produce a tanker built upon a "commercial baseline aircraft," consistent with Part 12 of the Federal Acquisition Regulation (FAR), which requires, to the maximum extent practicable, that Department of Defense programs acquire commercial items for defense purposes, at both the prime contract and subcontract levels. Contractors whose bids qualify under the "commercial item" provisions of the FAR must still provide data to demonstrate the price reasonableness of their bids, but in these cases, the FAR precludes the Air Force from requiring certified cost or pricing data, such as would be required for the procurement of military defense systems. Boeing responded to the Air Force's multiple requests for Boeing commercial cost data by providing alternative types of data compliant with the FAR, such as parametric estimates, to satisfy the Air Force as to the price reasonableness of its proposal. This data was substantial in content and in scope, deriving from Boeing's 50 years of experience building commercial jetliners. By the time Boeing submitted its final proposal, it believed that it had fully complied with the Air Force's requests to submit pricing data to support its proposal. In an October, 2007 meeting, the Air Force commended Boeing for the "unprecedented" levels of data it had supplied, and in a meeting held just before Boeing submitted its offer, the Air Force told Boeing it was satisfied with the commercial cost data it had provided.

At the debriefing, however, the Air Force lead cost evaluator made clear that he had refused to give any credit or credibility to the information Boeing had provided, announcing that all Boeing had submitted were "marketing materials" and some "graphs with lines on them." He later stated that he would have accepted nothing less than the same type of cost information for the commercial portion of the contract as Boeing's Integrated Defense Systems—a CAS-compliant defense contractor—had submitted to support the costs for the military portion of the KC-767 proposal. Because Boeing had not submitted such information for the commercial portion and because the evaluator apparently refused to assess the commercial data Boeing had submitted, the Air Force drastically increased Boeing's estimated costs in several areas, to the tune of about $5.2 billion overall, and assigned Boeing increased development and design risk for failing to "reasonably explain build up of cost" for the commercial portion of its proposal.

In so doing, the Air Force failed to comply with the legal requirements of the FAR for the pricing of commercial item subcontracts, and indeed, proved itself to be entirely unwilling to accept the commercial pricing paradigm authorized by those regulations. Its treatment of Boeing's cost/price data thus was contrary to federal law, contravened both DoD acquisition strategy and the RFP for this procurement, and denied Boeing the right to compete on fair terms with a commercial derivative product.

Furthermore, the Air Force's actions show that it altogether failed to comprehend the inherent manufacturing genius of the 767 bid. It gave Boeing no credit for offering exactly what U.S. Government acquisition strategy seeks: a low-risk, high value, proven baseline commercial aircraft, which Boeing proposed to modify to RFP specifications using an established in-line production process. By contrast, the Air Force apparently accepted the NG/EADS proposal at face value, assessing no additional risk for its convoluted development and production plan, and

accepting without hesitation EADS' offer to provide four green aircraft for development, which dramatically and unfairly lowered NG/EADS' design and development costs. EADS could afford to make that offer, of course, because of the illegal subsidies it receives from the consortium of foreign governments it serves. The United States Government currently is litigating this very issue against EADS before a World Trade Organization tribunal; under these circumstances, the Air Force's disparate treatment of Boeing's proposal and its award of this contract to NG/EADS is indefensible, and demonstrably contrary to the best interests of the warfighter and the American taxpayer. It cannot stand.

The following summary details the fundamental bases for Boeing's protest of the KC-X program award.

II.
SUMMARY OF PROTEST

The Air Force's RFP described the KC-X program as the "initial phase of a comprehensive aerial refueling capitalization strategy [to] replace approximately one third of the . . . current aerial refueling fleet." RFP, Statement of Objectives (SOO): KC-X System Development and Demonstration (SDD) (SDD SOO) at 1. The aerial refueling fleet currently comprises approximately 500 KC-135 medium-sized tankers, with an average age of 45 years, and approximately 60 KC-10 large-sized tankers, with an average age of 22 years. The purpose of the KC-X program is to acquire the first 179 replacement aircraft for the aging KC-135s. SDD SOO at 1. The Air Force will procure additional replacements for the KC-135 Medium Tankers under the subsequent KC-Y program. The still later KC-Z program, by contrast, will replace (at least in part) the Large KC-10 Tankers. The KC-X overall Life Cycle Cost over 25 years is expected to exceed $100 billion.

While public reports have suggested that the Northrop Grumman/EADS team (NG/EADS) overwhelmingly won the competition for the KC-X contract, the debriefing and source selection materials The Boeing Company (Boeing) has received reveal that this simply is not so. On the contrary, the Air Force Evaluation Summary makes clear that the competitors were assigned virtually identical ratings across all five evaluation factors: (1) Mission Capability; (2) Risk; (3) Past Performance; (4) Cost/Price; and (5) Integrated Fleet Aerial Refueling Assessment (IFARA):

Evaluation Summary of Factors

Factors	Boeing		NG	
Mission Capability/Proposal Risk				
Key System Requirements	B	L	B	L
System Integration & Software	G	M	G	M
Product Support	B	L	B	L
Program Management	G	L	G	L
Technology Maturity & Demonstration	G	NA	G	NA
Performance Confidence	Satisfactory		Satisfactory	
Cost/Price				
Reasonableness	Yes		Yes	
Realistic	Yes		Yes	
Balanced Offer	Yes		Yes	
MPLCC (TY$)	$108,044M		$108,010M	
Cost Risk Rating (SDD – P&D)	Moderate – Low		Low – Low	
IFARA	1.79		1.90	

On its face, the scorecard appears to suggest that the competition was close. When one looks behind the summary, however, it is apparent that Boeing's offering was decidedly superior. For example, in analyzing Mission Capability, the most important evaluation factor, the Air Force identified discriminators between the offers—including "major discriminators," "lesser discriminators," and weaknesses. While NG/EADS had 23 discriminators and five weaknesses, Boeing had 37 positive discriminators and only one weakness:

TOTALS OVERALL (BY SUBJECT MATTER)		
	Boeing	NG/EADS
MAJOR DISCRIMINATORS	13	12
LESSER DISCRIMINATORS	24	11
WEAKNESSES	1	5

Despite Boeing's overwhelming objective advantage with regard both to discriminators and weaknesses, the Air Force minimized the value of Boeing's positive discriminators, highlighted those of NG/EADS, and discounted NG/EADS' "discriminating" weaknesses, to justify the award to NG/EADS.

The Air Force's inexplicable rejection of Boeing's objective Mission Capability advantage is only a small part of the story. The information and materials provided to Boeing by the Air Force at the debriefing confirm that this was a fatally flawed procurement in which the Government made prejudicial errors in its assessment of each of the five evaluation factors. The myriad of errors stem largely from three major flaws in Air Force's evaluation process.

First, the Air Force's conduct of this procurement resulted in a substantial gulf between the aircraft the Air Force set out to procure—a medium size air refueling tanker to replace the venerable KC-135—and the Airbus A330-based tanker that it selected. The A330 is 27 percent larger than the Air Force's current KC-10 tanker (which is scheduled to be replaced at a much later date) yet carries many thousand of pounds less fuel. With the benefit of hindsight, it is apparent that the disconnect between the Air Force's stated goals and the solicitation, on the one hand, and its actual award decision, on the other hand, resulted from multiple factors. The Air Force altered its evaluation criteria midstream, manipulated the inputs into the model used for the Integrated Fleet Air Refueling Assessment (IFARA) to favor larger tankers, and applied unstated (and unsupported) priorities among the key system requirements in its source selection. The end result is an aircraft that has radically different characteristics than would be predicted from the validated requirements and that is markedly inferior to Boeing's KC-767 tanker offering.

Second, the Air Force requested a "commercial derivative" aircraft but then effectively denied Boeing its right under Federal Acquisition Regulation Part 12 to compete on this basis. The Air Force arbitrarily refused to credit the "unprecedented" insight into Boeing's commercial cost estimating processes and related commercial cost information that the company provided to support the pricing of its fixed price commercial subcontract with Boeing Commercial Airplanes (BCA). Instead, the Air Force made billions of dollars in upward adjustments to Boeing's projected costs for BCA and key commercial suppliers based, for example, on generic cost growth data from military programs across multiple industries. The data used by the Air Force, however, bore no rational relationship to the "unique methods of performance and materials described in the Boeing proposal" that it was required to fairly evaluate under the RFP.

Third, in evaluating Past Performance, the Air Force unaccountably lost sight of an overarching truth of this procurement—that Boeing is the only company in the world that has delivered a commercial derivative tanker equipped with an operational aerial-refueling boom. Indeed, Boeing has built (a) all of the Air Force's existing tanker fleet of roughly 560 aircraft, (b) approximately 90 percent of all tankers in global service today, (c) virtually every aerial-refueling boom ever made, and (d) the most advanced tanker currently in operation. The Air Force also ignored or improperly discounted recent performance assessments and successful tanker deliveries that clearly should have turned this factor in Boeing's favor. Instead, the Air Force focused instead on relatively insignificant, "somewhat relevant" NG/EADS' programs to conclude that Boeing was less likely to perform the KC-X contract successfully than NG/EADS, a multi-national, multi-lingual coalition of companies that have never before worked together to deliver any commercial derivative aircraft to a government customer, much less a commercial derivative tanker aircraft with an operational refueling boom. Absent the Air Force's errors—highlighted below—Boeing almost certainly would have been awarded the KC-X Tanker Contract.

A. THE AIR FORCE'S IMPROPER EVALUATION OF MISSION CAPABILITY, IFARA, AND RISK SEVERELY PREJUDICED BOEING.

Boeing carefully tailored its proposal to match the Air Force's stated requirements and provide the plane the Air Force said it wanted—an agile, efficient, yet highly capable medium-sized tanker able to operate in hostile environments and from small airfields of marginal quality

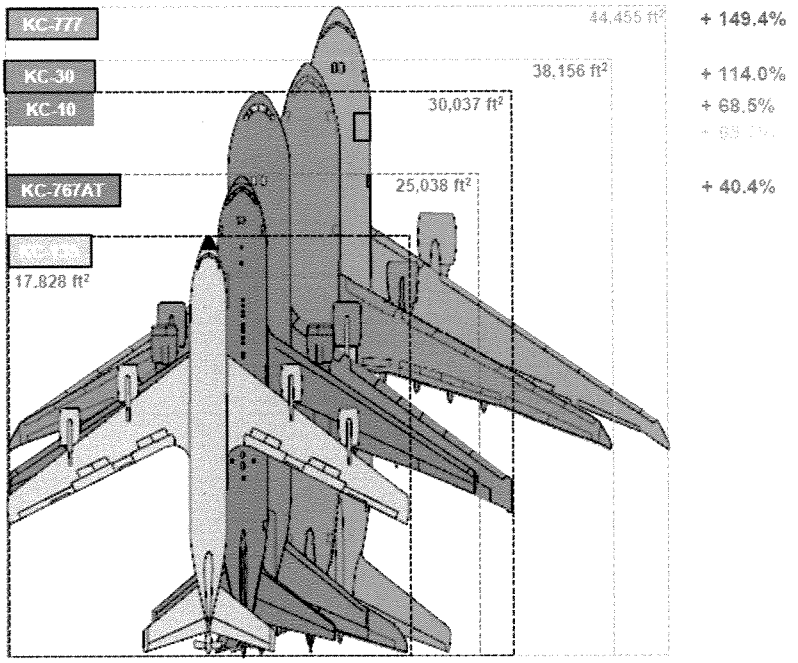
throughout the world. That is why it offered a modified 767—a medium-sized plane with the lowest pavement strength requirement and highest fuel efficiency of any commercially available wide-bodied aircraft and a turnaround radius even tighter than that of the KC-135. And, unlike NG/EADS, Boeing proposed to integrate extensive defensive systems into its tanker offering. NG/EADS, by contrast, offered a very different aircraft—a much larger, less efficient, and far more vulnerable tanker less capable of operating from austere bases. Nevertheless, the inordinate weight given by the Air Force to the sheer size and capacity of the KC-30 under the Mission Capability and IFARA factors effectively transformed the fundamental purpose of this procurement, which was to replace the medium-sized KC-135. This transformation was effected through misleading discussions, disparate treatment, application of unstated criteria, overemphasis of secondary considerations, and unjustifiable evaluation ratings. Had Boeing known the Air Force was going to give size and capacity such dispositive weight in the evaluation it would have proposed its larger 777.

In the area of Risk, the Air Force misled Boeing during proposal discussions, first by reiterating that schedule would not be a direct factor in the evaluation, and second by maintaining that, unless Boeing extended its originally proposed schedule by two years, the Air Force would rate Boeing's schedule as "high risk." Boeing accordingly pushed back its proposed schedule by two years at the expense of billions of dollars in estimated cost growth and an unexpected competitive disadvantage caused by the associated delay in achievement of Initial Operational Capability (IOC). Boeing learned at the debriefing, however, that NG/EADS had not been assessed high risk for their schedule, which apparently proposed IOC two years earlier than Boeing, and also received credit for proposed early delivery of four "green" aircraft. Given the obvious risks implicit in the shifting, multi-continent production approach proposed by NG/EADS (especially in comparison with Boeing's stable, established in-line production approach), it is clear that the Air Force applied different, less rigorous standards in assessing schedule and production risk to NG/EADS — two companies that have never before worked together on a project like this — than it applied to Boeing.

While the flaws and unfair considerations that permeate the Air Force's Mission Capability, IFARA, and Risk assessments are extensive and numerous, the following four areas are particularly illustrative:

1. Size and Capacity.

From the inception of the KC-X program and throughout the competition, the Air Force made clear that the KC-X was intended to replace the smaller, aging KC-135. The future KC-Z, on the other hand, is intended to replace the larger, newer KC-10. While Boeing's proposal hewed closely to this stated objective, NG/EADS offered a tanker that is double the size of the KC-135 it is replacing. Indeed, NG/EADS' KC-30 is not only much larger than the KC-135 and Boeing's KC-767 offering, it is also 27 percent larger than the KC-10, which is slated to be replaced by the future KC-Z some years from now:



The Air Force aptly summed up its incongruous decision in "one word: more. More passengers, more cargo, more fuel to offload, more patients that we can carry, more availability, more flexibility and more dependability." Transcript, DoD News Briefing, Feb. 29, 2008, Ex. 1 at 7. Boeing, however, met or exceeded each and every one of the Key Performance Parameter (KPP) Thresholds established by the RFP for aerial refueling, airlift, operational availability, and mission capable rates—the specific evaluation areas that capture these attributes emphasized by the Air Force. Furthermore, although the KPP Thresholds were the only mandatory requirements specified by the Air Force, Boeing also met all of the KPP ***Objectives*** relating to these areas. According to the RFP, these Objectives identified the maximum capability desired, though not required, by the Air Force, ***and no credit was to be awarded for exceeding them***. Indeed, Boeing also satisfied all of the secondary Key System Attribute (KSA) Thresholds and Objectives relating to aerial refueling, airlift, operational availability, and mission capable rates. NG/EADS did not. Furthermore, the Air Force identified Boeing as having four Major Discriminators in the Key System Requirement of Survivability, compared to none for NG/EADS. For these reasons, straightforward application of the RFP criteria should have led to the conclusion that the KC-767 offers superior Mission Capability to the KC-30. Yet, the Air Force improperly concluded otherwise.

Setting aside the fact that the Air Force's assessment is unsupportable on its own terms, its rationale betrays a wholesale shift in acquisition strategy in the midst of this procurement. Fundamentally, the KC-X was to be a smaller aircraft capable of operating in hostile environments and from marginal airfields close to the fight. The enormous KC-30, however, will have difficulty operating in hostile environments and from austere airfields with smaller tarmacs and soft runways. Boeing's smaller, more survivable KC-767, however, would allow the Air Force to operate more tankers in dangerous and austere locations under stressful real-world conditions, putting more "booms in the air" closer to the fight. The RFP makes clear that this is the "primary mission" of the KC-X. RFP, System Requirements Document (SRD) at 1.

By focusing on passenger, cargo, and aeromedical benefits—all of which were "[s]econdary missions" that were "not to significantly impact the primary [aerial refueling] mission," *id.*—the Air Force sacrificed real-world operational tanker needs, including survivability in a hostile environment, in favor of extraneous considerations. The Air Force's emphasis is especially troubling in light of GAO's previous determination that the Department of Defense had failed to conduct the "mandatory analyses to support a passenger and cargo capability for the new replacement refueling aircraft, the KC-X tanker." *See* GAO, *Defense Acquisitions: Issues Concerning Airlift and Tanker Programs*, GAO-07-566T at 2 (Mar. 7, 2007). Furthermore, Secretary Wynne emphasized early on that the KC-X was intended to be first and foremost a refueling aircraft, not a passenger or cargo plane that could also refuel: "We want to buy a tanker. We do not want to buy a cargo airplane that tanks, we also do not want to buy a passenger airplane that tanks. We want to buy a tanker." *Wynne: Evaluation Criteria Will Not Change In Final Tanker Proposal*, Inside the Air Force, Jan. 19, 2007. In awarding the KC-X contract to NG/EADS, the Air Force appears to have disregarded both the GAO's prior determination and its own representations. It also violated the express terms of the RFP by crediting NG/EADS for exceeding airlift Objectives—which set forth the maximum capability sought by the Air Force—in areas such as aeromedical evacuation.

Even with respect to aerial refueling—which was to be the core operational capability of the KC-X—the Air Force's emphasis on "more" plainly caused it to misapply its stated evaluation criteria. Indeed, the Source Selection Decision Document makes clear that while the KC-767 met or exceeded all KPP Thresholds and Objectives in this area, the KC-30 failed to meet two important aerial refueling KPP Objectives. Source Selection Decision Document (SSDD) at 6-7. Among other things, the KC-30 will be unable to refuel tilt-rotor aircraft, including the Marine Corps' V-22 Osprey. *Id.* Similarly, although the Air Force found no weaknesses in Boeing's approach to aerial refueling, it identified two weakness associated with NG/EADS' approach, including—critically—a weakness relating to its design of the all-important aerial refueling boom. *Id.* at 6. This flaw is hardly surprising, for neither Northrop Grumman nor its European partner has ***ever*** delivered a tanker aircraft with an operational aerial refueling boom.

Despite these significant shortcomings, the Air Force assigned dispositive significance to the larger fuel capacity of the KC-30. In so doing, it once again impermissibly credited NG/EADS for exceeding Objectives—such as that relating to fuel offload capacity—contrary to the plain terms of the RFP. It also acted unreasonably. Historical data from conflicts and operations over the past two decades demonstrate that aerial refueling missions have generally required tankers to offload between 40,000 and 65,000 pounds of fuel at a nominal mission radius of 1000 nautical miles. Given that the KC-767 can comfortably carry and offload such quantities of fuel at distances of 2000 nautical miles or more, there is no objective basis to credit the KC-30's additional capacity with any operational benefit. Furthermore, the KC-30—unlike the KC-767—failed to meet the KPP Objective of being able to refuel all current and programmed tanker-compatible aircraft at maximum gross weight, further undermining any operational merit to be derived from its excess capacity. As a result of this shortcoming, it is believed that, when carrying a full load of fuel, the KC-30 will be physically incapable of refueling slower aircraft like the ubiquitous C-130 military transport aircraft.

In any event, the KC-30's excess capacity comes at a steep price, both operationally and in terms of cost. As noted above, the KC-30 will not be able to operate from austere airfields with small tarmacs and soft runways. And not only will this oversized tanker require more costly and extensive maintenance, support, and modifications or new construction of military facilities than would the KC-767, it will also burn approximately 2800 pounds more fuel per hour than the smaller, more efficient KC-767. In a time of ever-increasing fuel costs, this is too high a price to ask the taxpayers to pay for excess capacity that serves no meaningful operational purpose or defined need.

2. IFARA.

The Air Force's decision to choose a tanker much bigger than the one contemplated by the RFP is also reflected in its IFARA evaluation. The IFARA factor was intended to assess each competitor's ability to "fulfill the peak demand of the aerial refueling elements evaluated in the 2005 Mobility Capability Study." RFP § M.2.6. This study addresses specific war-time scenarios and reflects real-world theater conditions, such as space constraints, runway weight limitations, and other restrictions found at forward bases from which the KC-X must operate. *Id.* To perform the IFARA assessment, the Air Force used the Combined Mating and Ranging Planning System (CMARPS) model, a highly operator-dependent model —not incidentally created and maintained by Boeing's lone competitor under the RFP, Northrop Grumman — to generate a "Fleet Effectiveness Value" score. This score compares how many KC-X tankers would be required to perform certain mission scenarios with the number of KC-135 tankers required to perform those scenarios.

The IFARA assumptions and data initially provided to the competitors were expressly tied to the real-world operational constraints set forth in the 2005 Study. In early 2007, however, NG/EADS threatened to withdraw from the competition. In response to this threat, the Air Force made two sets of changes. Although the RFP continued to indicate that the 2005 Study was central to defining the Air Force's requirements, all references tying the CMARPS model to this study were removed, and the Air Force relaxed key mission scenario assumptions so that they no longer reflected the study's real-world constraints. The changes favored larger aircraft, like the KC-30, that otherwise might be incapable of accomplishing the study's scenarios. Among other changes, the revised model:

- Disregarded the maximum number of tankers that can physically fit at any given base;
- Calculated maximum take-off weight and fuel using the strongest tarmac strength at a base instead of the weakest;
- Overstated available parking space by reducing the space between aircraft wingtips from 50 feet to 25 feet;
- Used a fixed tanker "ground turn around time" for all tankers instead of the actual time required to refuel the tanker on the ground; and

- Altered available ramp space and overflow space at certain bases, while also replacing distant bases with closer bases in modeling scenarios.

The Air Force informed Boeing that these changes in fundamental assumptions were necessary in order to enable the larger KC-30 even to complete the mission scenarios specified by the 2005 Study. Without those changes, NG/EADS could not get the model to "close" and generate an IFARA score.

When Boeing informed the Air Force that these changes appeared to skew the IFARA evaluation to favor a larger aircraft such as the Boeing 777, the Air Force assured Boeing that the ability to satisfy the real-world mission requirements as reflected in the 2005 Study would remain an important aspect of its IFARA evaluation. In that regard, it expressly reminded Boeing that the RFP stated that the "Government will report the 'fleet effectiveness value' [generated by the CMARPS model] . . . ***along with any major insights and observations gleaned from the evaluation***,"[1] and that the RFP allowed the competitors to include 100 pages of narrative to enable this assessment. RFP § M.2.6. In essence, the Air Force sought to balance the manipulation of the assumptions used in the CMARPS model to favor a larger tanker with the promise that the IFARA evaluation would credit the proposed tanker's ability to operate under real-world constraints as set forth in the 2005 Study through the meaningful consideration of insights and observations in addition to the score generated by the CMARPS model.

In reliance on the Air Force's promise, Boeing submitted 100 pages of careful analysis demonstrating operational advantages of the KC-767 that it had gleaned from running the model at a variety of operation tempos and subject to various real world constraints such as those set forth in the 2005 Study. Boeing's analysis demonstrated the KC-767's clear advantages in completing mission scenarios despite small tarmacs, soft runways, and other real-world constraints common at bare-base and forward operating locations near the fight.

The debriefing revealed, however, no evidence that the Air Force had ever performed the promised balanced assessment. The Air Force's modification of Northrop Grumman's CMARPS model inputs to replace real-world basing constraints with fictional assumptions more accommodating to the oversized KC-30 yielded the perverse result that the NG/EADS aircraft went from being unable even to complete the real-world scenarios specified in the 2005 Study to having a numerical advantage in its IFARA score. Despite the RFP requirement to do so, it was apparent from the debriefing materials that the Air Force utterly failed to account in a meaningful way for the KC-767's superior ability to operate under the actual, real-world constraints reflected in the 2005 Study.

3. Schedule Risk.

The RFP called for the modification of four test aircraft in the System Design & Development (SDD) phase, to be followed by the commencement of LRIP, "projected to start in FY10." SDD SOO at 1. The RFP likewise stated that the current plan was that Initial

[1] All emphases in the protest are added unless otherwise noted.

Operational Capability (IOC) "will occur in FY13." RFP § L Attach. 19. In response, Boeing's initial schedule complied with both deadlines, stating that the IOC date drove Boeing's schedule approach. During discussions, however, the Air Force assessed Boeing's initial schedule as a significant weakness with unacceptably high risk. The Air Force emphasized its desire for a "time-certain" schedule, stated that the FY13 IOC date was a "planning date only," and indicated that unless Boeing extended its schedule, its risk would remain high. Indeed, the Air Force went so far as to inform Boeing that the FY10 and FY13 dates stated in the RFP were not even "desired"; instead, it wanted a "risk prudent schedule."

While Boeing viewed its original schedule as realistic and achievable, it was compelled to extend this schedule significantly to avoid being saddled with "unacceptably high risk" (along with attendant cost increases) and potentially eliminated from the KC-X competition altogether. Still, Boeing was concerned about the approach the Air Force had pressed. Indeed, very late in the proposal discussions, Boeing asked how its extended IOC date was viewed. The Air Force responded: "[it] is considered ***neutral*** and ***is not a factor for source selection*** other than risk assessment with cost/schedule."

Public reports since the award reveal that NG/EADS' schedule establishes IOC in 2013. Boeing's debriefing showed, however, that the Air Force rated NG/EADS' schedule as *equal* in risk to the extended schedule forced on Boeing by the Air Force. This assessment makes no sense when one considers that, unlike Boeing, NG/EADS have never delivered a single tanker equipped with an operational boom; it will utilize an ever-changing intercontinental production approach for the first twelve aircraft comprising IOC; and it intends to build the planes at facilities that do not yet even exist. Worse yet, public reports indicate that the Air Force considered it a significant advantage for NG/EADS that the Air Force believed it would have roughly 49 KC-30s available under NG/EADS' proposal by 2013, but just 19 KC-767s by that date under the elongated schedule forced upon Boeing. This assessment reflects an impermissible and unreasonable evaluation, misleading discussions, and disparate treatment.

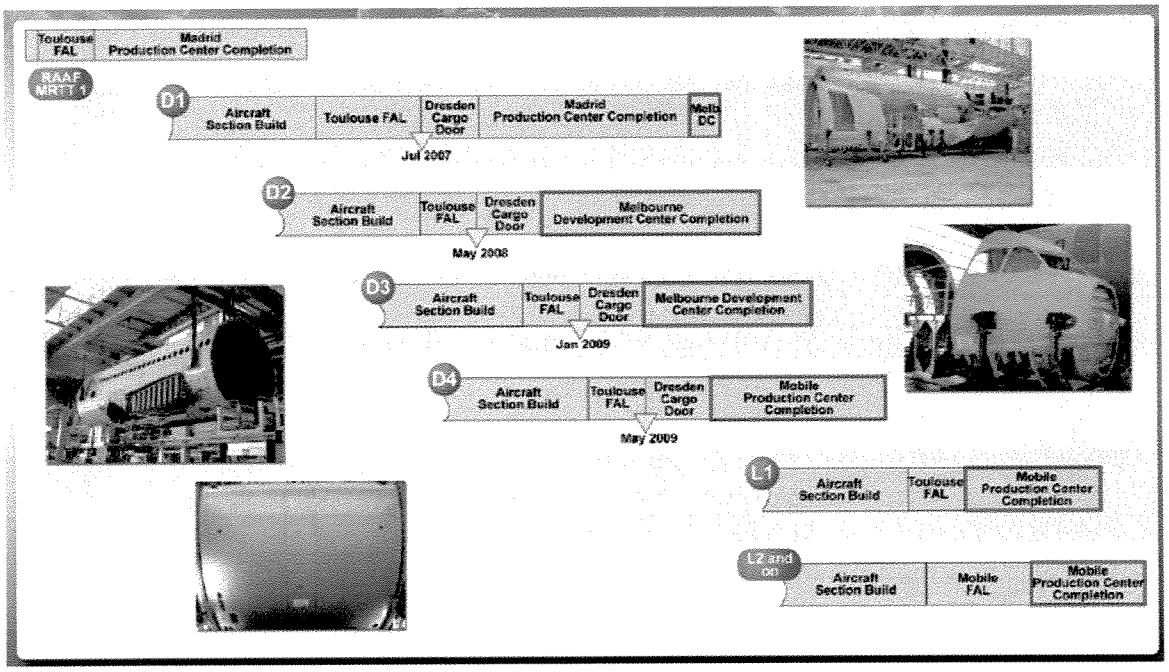
4. Production & Certification Risk.

The RFP instructed offerors that KC-X production must reflect "an efficient, prudent risk" approach, SDD SOO at 1, and required a "***feasible, effective, low risk manufacturing*** and quality assurance approach to integrating military capability into the commercial baseline aircraft," RFP § M.2.2.4. The RFP likewise required a "sound realistic approach" to obtaining and maintaining FAA Certification and Validation, including "production certification." *Id.* Moreover, the Air Force mandated a "quality [management] system [that] achieves stable, capable processes . . . and ***reduces variability of critical manufacturing processes***." RFP § L.4.2.5.9.2.

To address these specifications, Boeing's KC-767 employs a single-company, very low-risk, integrated manufacturing and certification approach. The KC-767 will be made by the same skilled and experienced American employees using the same production line at the same existing facility that has made 767s for years. This line will be improved to include in-line modifications of a type customarily made for commercial customers in order to obviate the need for major modifications to install uniquely military equipment. The KC-767 will be completed at Boeing's

"finishing facility" in Wichita, which has extensive experience finishing commercial-derivative military aircraft and working with the FAA's Wichita office to achieve certification.

In stark contrast, NG/EADS' approach reflects an evolving plan under which NG/EADS hopscotch through Europe to develop some of the planes, send others to Florida for modification, and ultimately aspire to produce the KC-30 in Alabama at a plant that does not yet exist with a production line that has yet to be identified. The chart below, from a recent NG/EADS briefing, well illustrates the ever-changing, intercontinental nature of the plan:



Thus, according to NG/EADS, the first developmental aircraft (D1) will be produced in France, then sent to Germany for modification to add the cargo door, then sent to Spain to install a boom (that is not yet operational), then sent to Florida for "Development Center Completion." That approach changes substantially with the second and third developmental aircraft (D2 & D3). Those aircraft will skip the Spanish leg and proceed directly from Germany to Florida, where apparently the work that was being performed in Spain will now be performed for the first time. The fourth aircraft (D4) is to be manufactured under yet another production scheme, skipping both the Spanish and Florida legs of the journey for delivery to a facility in Alabama (for which ground has not yet broken), where apparently the work that previously had been performed in Spain and Florida will now be performed for the first time.

Under DoD directives, Milestone C approval for transition from SDD into the LRIP phase of a program is supposed to require demonstration of both a stable product configuration and a stable manufacturing process. Under the NG/EADS plan, the production scheme for the first LRIP aircraft (L1) changes yet again. That aircraft will bypass the German stretch and proceed straight to Alabama, where apparently the work that was being performed in Germany will now be performed for the first time. This fifth aircraft also will witness the advent of NG/EADS' plan to have aircraft modifications "built into the platforms on the production line, eliminating the need for conversion," something Boeing does beginning with its very first

aircraft. Amy Butler et al., *Unseated, Northrop Grumman/EADS Tanker Win Has Boeing's Defense Business Scrambling*, Aviation Week & Space Technology, Mar. 3, 2008, Ex. 2 at 23. The second LRIP aircraft (L2) has yet another entirely new approach, with some of the work that had been performed in Toulouse, France, now being performed in Alabama. Thus, of the first six aircraft NG/EADS will produce, only the second and third will share the same production approach. The disruption that necessarily flows from this constant changing of the production process inevitably will be compounded by this repeated cross-continental, cross-cultural, and cross-lingual shifting of functions.

Incredibly, the Air Force somehow found no material distinction between the approaches to production offered by Boeing and NG/EADS, assigning to each the same evaluation rating for risk. In fact, the Air Force's Source Selection Decision Document and the briefing documents it has provided to Boeing are conspicuously silent on the relative risks of the competitors' sharply differing approaches. Under any objective assessment, NG/EADS propose neither a "feasible, effective, low risk manufacturing and quality assurance approach to integrating military capability into the commercial baseline aircraft" nor "stable, capable processes [that] reduce[] variability of critical manufacturing processes." These requirements are essential to ensuring that the KC-X is delivered on time and within budget. Boeing focused its proposal on satisfying those requirements using a low-risk approach and proven, established commercial manufacturing processes, yet the Air Force failed to give Boeing any additional credit for its approach and turned a blind eye to the ill-conceived, unstable, and highly risky NG/EADS approach.

B. THE AIR FORCE'S COST/PRICE EVALUATION IS DEEPLY FLAWED.

The Air Force's ***Cost/Price*** evaluation cannot stand. It is plagued by unreasonable cost assessments, disparate treatment, misleading discussions, and a fundamental failure to follow the evaluation criteria.

The RFP made clear that the Most Probable Life Cycle Cost (MPLCC) of the fleet of 179 KC-X tankers to be offered by each proposal was the key Cost/Price metric that would be considered in the source selection decision. *See* RFP § M.2.5.2. The MPLCC includes not only development and production costs, but also the total cost of operating and maintaining the KC-X fleet over a 25-year lifecycle. The Air Force plainly looked instead to other cost metrics in making its award decision. Indeed, the Air Force did not mention the MPLCC as a factor in its press conference announcing the award. Although the Air Force claimed that NG/EADS' proposal "offered great advantage to the government in cost price," Ex. 1 at 2, it referred only to three NG/EADS price elements: (a) the SDD cost of $1.5 billion; (b) the production cost for the next 64 aircraft of $10.6 billion; and (c) $35 billion in development and production costs for "the total of 179" aircraft. *Id.* at 4. When asked at the press conference for NG/EADS' MPLCC, the Air Force declined to provide this number, dismissing it as insignificant because it extended "way out . . . 25 years from now." *Id.* The briefing papers prepared by the Air Force's Source Selection Advisory Council (SSAC) similarly do not focus on MPLCC, but instead cite as a discriminator in favor of NG/EADS' proposal the fact that "[s]ubstantially less funds [are] required to develop and buy first 68 aircraft." SSAC Briefing at 29. But the RFP provided that Cost/Price should be evaluated based on the overall MPLCC, not on the amount of funding required to design, develop, and manufacture the first 4 or even the first 68 aircraft. By that measure, NG/EADS did ***not*** offer the Air Force a "great advantage . . . in cost price." Despite

numerous flaws that overstated Boeing's MPLCC while understating that of NG/EADS, the Air Force evaluated the offerors' MPLCC as nearly identical: ***$108,044M for Boeing and $108,010M for NG/EADS***. As the Air Force recognized, these figures differ only by a "minimal" 0.03 percent. SSAC Briefing at 28.

1. The Air Force Miscalculated and Discounted the Weight of MPLCC in Evaluating Cost/Price.

The Air Force failed to adhere to the terms of the RFP by all but ignoring the MPLCC and focusing instead on the SDD cost and the cost to buy—but not operate and maintain—179 aircraft. It erred further in determining that Boeing's MPLCC was higher than that of NG/EADS.

Under any rational evaluation, Boeing's MPLCC cost should be significantly lower than NG/EADS'. The larger KC-30 will cost far more to operate and maintain: it burns much more fuel and will require substantially more maintenance and repair, as well as more modification or new construction of military facilities. NG/EADS have freely admitted as much: "We do burn more fuel. We are a bigger airplane. So it has attendant higher maintenance or operating costs over the life of the fleet." Julie Johnsson, *Tanker Dogfight Nearing an End*, Seattle Times, Feb. 19, 2008, Ex. 3 at 3. Despite the obvious fact that the KC-767 should have a major MPLCC advantage, the debriefing materials make plain that the Air Force's MPLCC calculations for both Boeing and NG/EADS are close only because those calculations are riddled with prejudicial errors.

2. The Air Force Miscalculated the KC-767's MPLCC.

Multiple errors improperly inflated the Air Force's calculation of Boeing's MPLCC by many billions of dollars. These errors overwhelmingly stem from the Air Force's refusal to accept the very data and price support for which it bargained when it solicited a commercial derivative aircraft. There is no dispute that the KC-X sought "commercial derivative tankers." SSDD at 2. Nor is there any question that the KC-767 offered by Boeing—based on the Boeing 767—is a commercial derivative. Accordingly, under the Federal Acquisition Regulation, pricing of underlying commercial items and services must be based on commercial pricing methodologies and need not be supported by detailed certified cost or pricing data normally relied upon in major weapons system procurements. *See generally* FAR Part 12. Boeing provided FAR-compliant commercial cost data derived from 50 years of production of commercial and commercial derivative aircraft that the Air Force itself concluded was "unprecedented" in content and scope. Yet, at every turn, the Air Force improperly rejected Boeing's justification for commercial subcontract pricing because, as its lead cost evaluator admitted at the debriefing, the Cost Team wanted cost buildups for the commercial portions of the KC-X program comparable to those provided by Boeing for the noncommercial, military portions of the program. Three examples illustrate the Air Force's refusal to accept appropriate commercial data and price support:

- The Air Force by its own admission refused to credit the "unprecedented" level of insight Boeing provided into BCA's commercial cost estimating practices and related data that supported BCA's *fixed price* for non-recurring engineering effort relating to

the commercial in-line modifications for the KC-767 SDD aircraft; instead, the Air Force unreasonably increased Boeing's proposed cost by $400 million and assigned Boeing a Moderate SDD price risk because Boeing did not "reasonably explain" the build up of cost for BCA. *See* SSAC Briefing at 28;

- The Air Force then unreasonably increased Boeing's evaluated cost for the "budgetary" aircraft (Lots 6 through 13) by over $1 billion based upon its arbitrary refusal to credit BCA's historical learning curves on commercial programs; and

- The Air Force further adjusted Boeing's proposed O&S costs upward by over $2.8 billion because it would not recognize the *actual commercial price and repair data based on over 10 million flight hours* submitted by Boeing's subcontractor, Delta TechOps—which services most of the 950 Boeing 767s in operation today—to support Delta TechOps' *fixed price* proposal for repair costs. Instead, the Air Force arbitrarily calculated repair costs using historical repair cost data for the KC-135R, a different and older plane.

The Air Force's rejection of the data Boeing provided relating to its commercial subcontracts was patently improper: it nullified the requirements of the Federal Acquisition Regulation, contravened Department of Defense acquisition strategy and the fundamental structure of the KC-X procurement, and prevented Boeing from effectively competing for the KC-X contract by supplying a commercial derivative aircraft. In short, the record reflects that, at least with respect to Boeing's proposal, the Air Force fundamentally refused to accept the commercial pricing paradigm established by the Federal Acquisition Regulation.

3. The Air Force Misevaluated the KC-30's MPLCC.

In stark contrast to its treatment of Boeing's proposal, the Air Force's estimate of the KC-30's MPLCC reflected no similar scrutiny of NG/EADS' proposed costs. For example, NG/EADS' estimated cost of $1.5 billion for SDD is less than Boeing's estimate and, even though likely fueled by illegal foreign subsidies, is patently unrealistic. The Air Force appears to have accepted this price without significant adjustment. Indeed, information provided to Boeing at its debriefing revealed no appreciation—or even recognition—by the Air Force of possible schedule or cost risk associated with NG/EADS' plan to perform SDD at ***five different facilities—including one that does not yet even exist***—in ***four countries*** and ***two states***.

Furthermore, public reporting indicates that NG/EADS intend to shift to an in-line modification approach similar to Boeing's ***after*** the SDD phase when it completes its as yet nonexistent facility in Mobile, Alabama. Not only is this plan for a belated change in production approach contrary to applicable DoD directives governing the transition from SDD to LRIP, it also will plainly shift design and engineering costs from the SDD phase to later stages of the contract. There is no indication, however, that the Air Force ever accounted for any costs associated with this change. Certainly it appears to have made no risk-based adjustments comparable to those made by the Air Force to the fixed price offered by BCA for in-line modifications. Moreover, the Air Force assigned NG/EADS multiple weaknesses under the Mission Capability factor, but it did not make a single cost or schedule adjustment to account for those weaknesses. Finally, although the Air Force recognized that the substantially larger KC-30

would require billions of dollars more in fuel and depot maintenance costs, SSDD at 18, it failed to acknowledge that the KC-30 also would cost billions more in repairs and military construction.

C. THE AIR FORCE'S PAST PERFORMANCE EVALUATION IS UNREASONABLE.

The Air Force's Past Performance evaluation likewise cannot stand. In imposing the requirement that agencies use past performance as an evaluation factor, Congress expressly found that past performance is an "indicator of the likelihood that the offeror will successfully perform a contract to be awarded by [the Government]." 41 U.S.C. § 405 note; *see also* FAR § 15.305(a)(2)(i). Although when publicly announcing the award the Air Force touted NG/EADS' past performance as "excellent," the debriefing documents make clear that NG/EADS received the same "Satisfactory Confidence" rating assigned to Boeing. And, although the Source Selection Decision Document expressed confidence that NG/EADS "will deliver within cost . . . because of their past performance," the NG/EADS past performance rating for cost/price was "little confidence," meaning that "substantial doubt" existed about its ability to perform within budget. Furthermore, although the Air Force concluded that NG/EADS were more likely to successfully perform the KC-X contract than Boeing, the past performance ratings of both offerors were identical in nearly every respect. The only difference related to one subfactor, Program Management. This subfactor was rated fourth in order of importance of the five evaluation subfactors. The Air Force's evaluation and ultimate conclusion reflects both a fundamental failure to see the big picture as well as flawed analysis of the past performance of both companies.

1. The Air Force Ignored the Overwhelming Disparity Between the Offerors' Experience in Building Tankers.

The role of past performance in the evaluation is to predict the likelihood that the offerors will successfully perform the KC-X contract. The facts here are indisputable. Boeing has delivered every tanker and every military derivative of a commercial aircraft in the United States' fleet, many of which have operated well for more than 40 years. Boeing has just recently delivered the most advanced certified tanker in the world to Japan. The Air Force admitted at the debriefing that it considered ***experience*** as part of past performance, and Boeing's most relevant experience far surpasses that of NG/EADS. Indeed, NG/EADS have not to our knowledge ever delivered to any customer a tanker aircraft with an operational aerial refueling boom. Nor have NG/EADS delivered any military derivative of a commercial aircraft to the U.S. military. Accordingly, the Air Force's assessment that Boeing is less likely than NG/EADS to perform the KC-X contract successfully cannot be squared with reality or reason.

2. The Air Force Improperly Rated Boeing's Past Performance Too Low.

Furthermore, Boeing's past performance ratings, including its rating for program management, were plainly insupportable. Indeed, these ratings remained unchanged from those at the last briefing Boeing received before submitting its final proposal. Yet two events occurred after this briefing that should have improved Boeing's ratings. First, the Air Force received a new Contractor Performance Assessment Rating for the program on which Boeing had received

its lowest ratings. This new assessment rating showed improved performance in virtually every area, including those that previously had led to reduced ratings. Second, Boeing certified and delivered to Japan the most advanced tanker aircraft in existence. In leaving Boeing's past performance ratings unchanged, the Air Force appears to have overlooked or improperly discounted these developments. For example, when asked at the debriefing how it had viewed the new assessment rating, the Air Force initially expressed no knowledge of its existence. While it subsequently said that it had reviewed the assessment rating, it offered no justification for its failure to change Boeing's past performance rating in light of this improved assessment.

3. The Air Force Improperly Rated NG/EADS' Past Performance Too High.

In all events, the Air Force's conclusion that NG/EADS were more likely than Boeing to perform the KC-X contract successfully cannot stand. That decision turned on what the Air Force described as marginally better ratings on six "somewhat relevant contracts." Boeing's performance rating, by contrast, was based on far more "relevant" contracts. Even accepting the Air Force's flawed program ratings, the documents provided by the Air Force to Boeing reflect no analysis at all of whether marginally better performance on less relevant programs can properly be viewed as the ultimate discriminator on Past Performance. Given the vast difference in relevant experience between the two competitors, the answer surely must be "no." This is especially true here given that the Air Force ignored, or failed adequately to account for, numerous instances of adverse performance by NG/EADS. For example, it is well-documented that the EADS contract to provide to the Royal Australian Air Force the KC-30B Tanker—which NG/EADS tout as a predecessor to the KC-X—is suffering from EADS' failure to timely develop an operational aerial refueling boom. Delivery of the first aircraft appears already behind schedule, and press reports indicate that it will ultimately be delivered without an operational boom. Geoffrey Thomas, *Bowser Hitch for RAAF Refueling*, Australian, Nov. 9, 2007, at 40. Indeed, the aerial refueling boom for the Australian tanker "is not expected to be operational till late 2010." *Id.* By then, NG/EADS promise to have delivered four developmental KC-X aircraft to the Air Force and to have entered LRIP. NG/EADS' performance on the Australian tanker and numerous other troubled programs—including the Airbus Military A400M Airlifter, Tiger reconnaissance and attack helicopter, NH90 multi-role helicopter, E-2D SDD, A340-500/600, A350, and A380—should have produced a lower past performance rating than Boeing's.

* * * * *

In sum, in choosing NG/EADS' KC-30, the Air Force impermissibly misapplied the selection criteria, disregarded the RFP, and violated the requirements of the Federal Acquisition Regulation. Instead of choosing a tanker with the characteristics and capabilities contemplated by the RFP, it selected a much larger, more vulnerable, and ultimately more costly offering. The Air Force's flawed decision cannot stand.