

Air Force Tanker Decision Driven by Faulty Data

Contributed by Jed Babbin
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The Air Force determined the ability of each competing aircraft to perform the tanker mission using a complex computer model called the "Integrated Fleet Air Refueling Assessment" ("IFARA" in the inevitable military acronym). One key part of that assessment relied on data which determined the capacity of airfields to accept the weight and size of the aircraft.

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In mathematical approximations, you "round up" or "round down" fractions to the nearest whole number. A well-informed person who attended that meeting said that the Air Force "rounded up" the data on each airfield's capacity -- the weight-bearing capacity of runways, taxiways and parking ramps and the size of the parking ramps to base enough aircraft -- so that if any of those aspects was judged adequate, the entire facility was judged capable of having the aircraft operate from it.

That person said that the IFARA computer model could only accept one variable on the issue of airfield capability. It could not include any differences to account for variances in different parts of each airfield's capabilities. Thus, the model was flawed and the data fed into it were further skewed by the assumption that the larger aircraft could operate from airfields which in fact it cannot.

The "rounding up" assumption makes no sense. Which means the results of the IFARA analysis also make no sense. That an airfield can accommodate one aspect of an aircraft's operation does not guarantee that it can accommodate all others essential to the mission. If one runway can bear the weight of a huge tanker, others at the same field may literally collapse under the same weight. If you can park three huge tankers on a ramp, you may be able to park five smaller ones in the same space.

Just as important is an issue no one has yet raised: every airfield has limited ramp space for parking aircraft. Even if the airfield can accommodate the larger, heavier aircraft, what do they crowd out? How many fighter aircraft or transports won't be based there because the tankers take up too much space?

As I wrote last week, the Airbus aircraft is far larger and heavier than the competing Boeing aircraft. As I wrote on March 24:

The Boeing tanker, a version of the 767 jetliner, has a maximum takeoff weight of 395,000 pounds. It's 159 feet long and has a wingspan of 156 feet. The NG-EADS Airbus 330 tanker's max weight is 507,000 pounds. It is 192 feet long and has a 197-foot wingspan. My best scientific wild guess is that the NG-EADS aircraft will be unable to operate out of at least 20% of the airfields that could accommodate the right-sized Boeing tanker.

My "scientific wild guess" has been justified by the explanation of the defect in the data the Air Force used and in its computer model.

According to data provided by the Boeing Company, there are about 1643 airfields worldwide that can accommodate tanker operations. Of those, Boeing claims, the 767 tanker can operate out of about 811 and the Northrop Grumman/EADS A-330 can only operate out of about 408.

Data provided by Northrop Grumman -- apparently from the model used by the Air Force -- shows that their larger tanker can operate from 838 airfields while the Boeing can only operate from about 465 with the same fuel load. This shows the magnitude of the error produced by the IFARA model employing the "rounding up" faulty assumption.

Assuming the Boeing data are exaggerated in its favor, the conclusion must still be drawn that the NG/EADS tanker cannot operate out of hundreds of airfields that can accommodate the smaller, lighter Boeing aircraft.

US combat airpower and air transport capabilities are directly proportional to the availability of tanker support. Assume that the Boeing data are exaggerated by 20%. That means that of the 1643 airfields available to US tanker operations, Boeing can operate from about 650 while the NG/EADS aircraft can only operate from about 490.

Doing the math produces a very ugly impact on the warfighters. At least 160 airfields available for tanker operations with the smaller Boeing aircraft will be unavailable to the NG/EADS A-330. Which airfields are among that 160? How important are they to the strategic planning for combat and air transport operations? Those questions must be answered before the NG/EADS deal is allowed to proceed.

At least one Congressional office is inquiring into the computer model flaws and attempting to get the results of a better analysis of airfield capabilities. And there are other questions that must be answered.

• Why didn't the Air Force correct its computer model so that it could accept more accurate data on airfield capabilities?

• Why was the "rounding up" of airfield capabilities allowed to skew the results to the larger tanker?

• And -- specific to each airfield -- which other air assets (fighters, cargo aircraft, etc.) will be crowded out by the bigger tanker?

As a nation, we must buy the tanker with the greatest capability to operate out of the most airfields. For every one we buy that limits operability, we degrade our combat and air transport capabilities.

Congress may spend the next several months fulminating about jobs exported and subsidies paid to Airbus. That debate will produce nothing but political heat. It will not end in requiring the right aircraft to be acquired to support the mission.

Congress would do better to set aside those considerations and find out the specifics on airfield operations of both competing aircraft.

The issue comes down to what then-Air Force Chief of Staff Gen. John Jumper told me the first time I spoke to him on this subject more than three years ago: "We are a global air and space power because of these tankers." No tankers -- in the right numbers, at the right places and at the right time -- no superpower.

The mission of the Air Force is to fly and to fight. Do we want to spend billions of dollars on an aircraft that apparently will reduce the Air Force's ability to perform that mission?

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