

FOR OFFICIAL USE ONLY  
UNTIL RELEASED BY THE SENATE ARMED SERVICES COMMITTEE

**STATEMENT OF  
DR. J. RICHARD NELSON  
ASSISTANT DIRECTOR  
COST ANALYSIS AND RESEARCH DIVISION (CARD)  
INSTITUTE FOR DEFENSE ANALYSES (IDA)  
ALEXANDRIA, VIRGINIA**

**BEFORE THE SENATE ARMED SERVICES COMMITTEE**

**ON THE PURCHASE PRICE ESTIMATE  
FOR THE KC-767A TANKER/COMBI AIRCRAFT**

**4 SEPTEMBER 2003**

FOR OFFICIAL USE ONLY  
UNTIL RELEASED BY THE SENATE ARMED SERVICES COMMITTEE

Mr. Chairman and Members of the Committee, I am pleased to come before you today to talk about IDA's estimate of the purchase price of the KC-767A Tanker/Combi Aircraft.

## **Introduction**

In January 2003, the Institute for Defense Analyses (IDA) was tasked by the Office of the Under Secretary of Defense Acquisition Technology and Logistics and the Office of the Director, Program Analysis and Evaluation to estimate the purchase price of the KC-767A Tanker/Combi aircraft. The Tanker/Combi designation indicates that the aircraft can serve as an air-refueling tanker or carry freight or carry passengers or combine freight and passengers.

## **Description of Proposed Aircraft as Assessed by IDA**

The KC-767A Tanker/Combi aircraft is to be based upon the commercial B767-200ER. Modifications would include the addition of features available on other Boeing 767 models, as well as changes required for the military application. In the tanker role, total fuel capacity is to be just over 200,000 pounds, including up to 41,000 pounds carried in added auxiliary fuel tanks. The KC-767A would have the capability to perform refueling by both the hose/drogue and boom methods (not simultaneously) from the aircraft centerline and would also be able to receive fuel from other tanker aircraft. The cabin of the KC-767A is to be convertible to three configurations. In the passenger configuration, the KC-767A would accommodate up to 190 passengers and 10 crewmembers. The freight configuration would allow carriage of up to 19 cargo pallets and 10 crewmembers. The combination (so-called "Combi") configuration is to have the capacity for simultaneous carriage up to 10 pallets, 10 crewmembers, and 70 passengers.

## **Objective and Scope of the Task**

The objective of the IDA task was to estimate a unit purchase price for 100 KC-767A aircraft. We did not investigate the condition of the KC-135E/R fleet or the requirement for a tanker replacement. We were not asked to evaluate any other aspect of the proposed acquisition and therefore did not address provisions of the lease, financing, suitability of leasing, or any alternatives to this proposal. Consequently, the purchase price for the fleet of KC-767A aircraft is what I am prepared to discuss today.

## **Methodology and Data Sources**

To estimate the KC-767A Tanker/Combi purchase price, we separated the acquisition into several segments:

- *Basic 767-200ER*—the commercial aircraft upon which the KC-767A design would be based.
- *Enhanced B767 Features*—the features from other B767 models that would be added to the basic B767-200ER design to build toward the KC-767A.
- *Combi Modifications*—the modifications to the B767-200ER that would allow the carriage of passengers, freight, or both simultaneously.

- *Auxiliary Fuel Tanks*—the lower fuselage fuel tanks, pumps, and installation materials required for additional fuel capacity in the KC-767A.
- *Tanker and Other USAF-Unique Modifications*—the changes required to give the KC-767A its refueling, fuel-receiving, and military-unique capabilities.
- *Development Costs*—the investment required to create and certify the KC-767A design.

The proposed KC-767A program would use FAR Part 12 guidelines written for the acquisition or lease of commercial items. Under these guidelines, the contractor is not required to provide cost estimates, or any other data not normally supplied to commercial customers. The establishment of a reasonable price under these rules would normally rely largely on prices for the same or similar items in the commercial marketplace. However, the KC-767A Tanker/Combi aircraft acquisition involves modifications that do not easily lend themselves to this approach, particularly in the area of military aerial refueling capability. The market for large tanker aircraft is limited and of little value for rigorous determination of reasonable prices. Consequently, while our analysis made use of commercial pricing wherever possible, we relied on traditional cost analysis techniques where estimation by commercial pricing was not practical.

Our analysis relied on data from a variety of public sources, including other government sources, the analyses of consultant organizations hired by IDA, internal IDA proprietary data and models, data supplied by Boeing, data provided by other Aerospace suppliers, and data supplied by the USAF.

## Task Results

The analysis examined the proposed aircraft in detail, and incorporated information provided by Boeing during and after briefings at their facility in Wichita, Kansas. We feel that the evolution of our task through the January to May time period has resulted in a methodologically conservative approach that has produced a high quality unit price estimate. We also performed an internal rate of return (IRR) analysis on an estimate of Boeing’s initial investment and found that our price estimate would provide Boeing with an attractive IRR for the time-period, and considering the risks involved. We believe that \$120.7 million is a reasonable unit purchase price estimate for the proposed 100 KC-767A aircraft. Our estimate is summarized in the following table according to the segments identified in the methodology.

**Summary of KC-767A Tanker/Combi Purchase Price Analysis**

Taxonomy Element	IDA Unit Price Estimate (FY02 \$M)	Primary Analysis Technique	Primary Data Sources
Basic B767-200ER	72.1	Commercial Pricing	Consultants, Department of Transportation data
Enhanced B767-200ER Features	1.6	Commercial Pricing	Consultants, Boeing, USAF data, IDA models, vendor quotes
Combi Modifications	9.5	Commercial Pricing	Consultants, public data
Auxiliary Fuel Tanks	6.3	Cost analysis	Vendor quotes, IDA models
Tanker and Other Modifications	20.3	Cost analysis	IDA models, USAF, Boeing
Development Costs	10.9	Cost analysis	USAF, IDA models
<i>Total</i>	<i>120.7</i>		

Mr. Chairman and Members of the Committee: Due to the proprietary information agreement that IDA has signed with The Boeing Company, I cannot divulge any proprietary data that we have obtained

FOR OFFICIAL USE ONLY  
UNTIL RELEASED BY THE SENATE ARMED SERVICES COMMITTEE

under this agreement. IDA and the OSD sponsors have provided a redacted version of our report, and the privileged information version can be read in the Pentagon.

Mr. Chairman and Members of the Committee: Thank you for your attention. I am available for comments/questions.