



May 7, 2002

Honorable John McCain
United States Senate
Washington, DC 20510

Dear Senator:

As you requested in your letter of April 17, 2002, the Congressional Budget Office has analyzed several alternatives for modernizing the Air Force's fleet of tanker aircraft. We compared the cost of purchasing Boeing 767 tankers to a variety of possible arrangements for leasing Boeing 767s for use as tankers. The estimates provided here should be considered preliminary because CBO did not have access to the details of ongoing negotiations between Boeing and the Air Force regarding a potential lease. Nonetheless, under a variety of assumptions, a long-term lease of tanker aircraft would be significantly more expensive than a direct purchase of such aircraft.

That result is not surprising. CBO's analysis is similar to the type of cost analysis that agencies are required to perform when they are considering leasing any major asset that is built for the express purpose of being leased to the government. Factors that tend to make the lease of such assets by the government more costly than a direct purchase include the lessor's cost of financing (which is higher than the cost of Treasury borrowing), the need to set lease payments high enough to compensate the lessor for the risk he incurs by producing an asset for which there is a limited market, and any increased administrative costs associated with a lease rather than an outright purchase. Further, in this case, the need for tanker capability will presumably not expire with the lease term—something must be purchased or leased to replace it. Therefore, we have included an estimate of the cost to purchase these tankers at the end of the lease term—the most likely option to preserve tanker capability.

Leases have a greater potential to be cost-effective if the government does not have a long-term requirement for the asset. That does not appear to be the case here. Cost-effective leases also require the existence of a substantial market (by scoring rules, a private market) into which to sell assets at the end of the lease. While there is no private market for tankers, even the public, government market is not likely to absorb more than a few of the 100 tankers.

Absent current detailed information from the Air Force or Boeing, CBO made a number of assumptions that underpin all of the estimates presented below. For instance, based on data provided by the Air Force last year, CBO estimates that the cost of the commercially configured Boeing 767-200ER aircraft would be about \$110 million and the cost to convert the aircraft to a tanker would be about \$40 million. CBO also estimates that the costs for new infrastructure that would be needed to support this aircraft—facilities, simulators, and other items—would total about \$2 billion, based on data provided by the Air Force. Finally, CBO estimates that it would cost about \$2 million per plane per year (in 2001 constant dollars) to operate and maintain these aircraft, and that this cost would grow at a real annual rate of 3 percent because of aircraft aging. The estimated costs in this letter are expressed in current dollars and their net present values. (See the attached table.)

Purchase 100 767 Tanker Aircraft. The Air Force could purchase Boeing 767 tankers using traditional acquisition methods. Assuming that four aircraft are delivered in 2005, 11 are delivered in 2006, 20 are delivered each year from 2007 to 2010, and the last five aircraft are delivered in 2011, CBO estimates that the costs to purchase 100 tankers and the associated infrastructure would be about \$18 billion. CBO also estimates that it would cost about \$5 billion to operate these aircraft over the 2005-2020 period, and \$2 billion to operate the existing KC-135E aircraft from 2005 until they are phased out of the inventory in 2011. Overall, CBO estimates that pursuing this option would cost about \$25 billion in current dollars over the 2003-2020 period and \$20 billion in net present value terms.

Lease 100 767 Aircraft and Modify the Aircraft to Tankers Under the Terms Specified Under Current Law. The Department of Defense and Emergency Supplemental Appropriations Act for Recovery from and Response to Terrorists Acts on the United States Act, 2002 (Public Law 107-117) authorizes the Air Force to lease as many as 100 Boeing 767 aircraft in a general-purpose configuration for up to 10 years. Under current law, the Air Force can convert these aircraft to a tanker configuration, and may restore them to a commercial configuration before returning them to Boeing at the end of the lease period. Although the lease terms are still under negotiation, CBO assumes that the Air Force would enter into seven separate 10-year operating leases for commercially configured 767s (for delivery over seven years: 2005 through 2011) and then modify them to tankers on the same schedule described in the purchase option above. CBO also assumes that the Air Force would restore the aircraft to their general-purpose configuration before returning the aircraft to Boeing at the end of each lease.

CBO estimates that the annual cost of leasing each 767-200ER in a general-purpose configuration for 10 years would be approximately \$21 million, using current market interest rates. After including the modification and restoration costs, CBO estimates the cost of leasing 100 of these aircraft would total about \$31 billion over the 2003-2020 period. CBO estimates that it would cost about \$4 billion to operate these aircraft as they are phased into and out of operation over the 2005-2020 period and \$2 billion to operate the KC-135E aircraft from 2005 until they are phased out of the inventory in 2011. Overall, CBO estimates that pursuing this option would cost about \$37 billion in current dollars over the 2003-2020 period and \$24 billion in net present value terms.

But the cost and benefits of this option are not comparable to those in the purchase option because the Air Force would not possess any aircraft at the end of the last 10-year operating lease, as it would if it could purchase the aircraft. The useful service life of the aircraft would likely extend for at least 20 years beyond 2020.

To retain the same tanker capability provided by the purchase option, the Air Force would need to incur additional costs to either buy the aircraft, or enter into new leases for the same or replacement aircraft. If the Air Force were allowed to purchase the tankers at the end of the lease term, it would avoid the restoration costs and instead pay the residual cost of the aircraft, which CBO estimates to be about \$6 billion. Thus, CBO estimates that the eventual costs to implement this option would be about \$40 billion in current dollars over the 2003-2020 period and \$26 billion in net present value terms, once the costs of purchasing these aircraft are considered. If the Air Force were not allowed to purchase the aircraft at the end of the lease, the cost of maintaining tanker capabilities under this option would be even higher.

Acquire 767 Tanker Aircraft Under a Lease-Purchase Arrangement. If current law were amended to permit leasing in a tanker configuration, then the conversion costs could be financed through the lease rather than with procurement dollars. CBO estimates that the annual cost of leasing each 767-200ER in a tanker configuration for 10 years would be approximately \$28 million and that the costs to lease 100 tankers and the associated infrastructure would be about \$30 billion over this period. If current law also were amended to allow the Air Force to purchase 100 tankers for their residual value at the end of the lease term (about \$8 billion), then CBO estimates the costs to lease and purchase the aircraft would total about \$38 billion. CBO also estimates that it would cost about \$5 billion to operate these aircraft over the 2005-2020 period, and \$2 billion to operate the existing KC-135E aircraft

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from 2005 until they are phased out of the inventory in 2011. Overall, CBO estimates that pursuing this option would cost about \$45 billion in current dollars over the 2003-2020 period and \$28 billion in net present value terms.

You also asked us to look at a number of other issues and options associated with the Air Force plans to replace its tanker aircraft fleet that we cannot address yet. We expect to provide you with that information at a later date. If you wish further details about the above estimates, we will be happy to provide them. The CBO staff contacts are David Newman, and Deborah Clay-Mendez.

Sincerely,

Dan L. Crippen
Director

Attachment

Attachment
May 7, 2002

COMPARISON OF COSTS TO MODERNIZE AIR FORCE TANKER FLEET
(In billions of dollars)

Option	Current Dollars			NPV
	Acquisition/ Lease	Operation & Support	Total	Total
I Purchase Tanker Aircraft	18	7	25	20
II Lease Under Current Law ^a	31	6	37	24
IIA Lease Under Current Law with Purchase ^b	33	7	40	26
III Lease-Purchase Tanker Aircraft ^c	38	7	45	28

NOTE: Numbers may not add due to rounding.
NPV = Net Present Value

- a. Costs include the cost of lease payments, the cost to modify the aircraft to a tanker configuration, and the cost to restore the aircraft to a commercial configuration at the end of the lease.
 - b. Costs include the cost of lease payments, the costs to modify the aircraft to a tanker configuration, and the cost to purchase the aircraft for their residual value at the end of the lease.
 - c. Costs include the cost of lease payments for aircraft in a tanker configuration and the cost to purchase the tanker aircraft for their residual value at the end of the lease.
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