

GAO Highlights

Highlights of [GAO-22-104530](#), a report to congressional addressees

Why GAO Did This Study

The KC-46 tanker is among the Air Force's highest acquisition priorities as it is intended to replace one-third of the aging aerial refueling tanker fleet. Aerial refueling—the transfer of fuel from airborne tankers to combat and airlift forces while in flight—is critical to the U.S. military's ability to operate globally.

GAO received a request to review the KC-46 program. In addition, a House Report included a provision for GAO to review the Department of Defense's (DOD) use of contracted aerial refueling services. This report reviews the KC-46 program and assesses: (1) the Air Force and Boeing's steps to address critical deficiencies; (2) the Air Force's plans to conduct a technology readiness assessment and maturation plan for critical technologies; and (3) DOD's actions to address potential aerial refueling gaps, including the use of contracted refueling services.

GAO assessed documentation and interviewed officials from the KC-46 program office, Air Force, DOD, and Boeing, among others.

What GAO Recommends

GAO is making three recommendations including that, prior to the approving the contractor's redesign of the remote vision system, or soon thereafter, the Air Force (1) assess technology readiness, (2) develop a technology maturation plan, and (3) test the prototype in an operational environment. The Air Force did not concur with these recommendations. GAO continues to believe these recommendations are valid, as discussed in this report.

View [GAO-22-104530](#). For more information, contact Jon Ludwigson at (202) 512-4841 or ludwigsonj@gao.gov.

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KC-46 TANKER

Air Force Needs to Mature Critical Technologies in New Aerial Refueling System Design

What GAO Found

The KC-46 tanker's aerial refueling capability enables military aircraft to fly farther and stay airborne longer. The Air Force and Boeing are currently addressing several critical deficiencies—such as shortfalls that can cause death or injury, or loss or damage to the aircraft—that are delaying use of KC-46's full aerial refueling capabilities. Two of these deficiencies relate to the aircraft's remote vision system (RVS). The system's cameras and display allow operators to observe and reposition the boom—a rigid telescope that delivers fuel to the receiver aircraft. (See figure.) The RVS currently cannot be used to perform all aerial refueling missions because it does not work in changing lighting conditions.

KC-46 Aircraft Using a Boom to Refuel a Receiver Aircraft



Source: © 2016 Boeing Company - Photo by Paul Weatherman. | GAO-22-104530

Despite delays, the government's financial risk has generally been limited to the ceiling price of its contract with Boeing. However, the Air Force plans to close its review of the contractor's proposed redesign for the remote vision system and assume financial responsibility for it without:

- assessing the system's technology readiness level;
- developing a plan to bring the system's immature technologies to appropriate technology readiness levels; and
- integrating and testing the system prototype in an operational environment.

Without taking these steps prior to closing the preliminary design review, the program may accept a remote vision system design that contains immature technologies and greater risk of cost and schedule growth. The sooner the program completes these steps, even if after the design review, the sooner it can identify design issues and proactively take steps to mitigate any further cost growth and delays in delivering promised capability to the warfighter.

As the Air Force begins to retire its aging tankers, it plans to expand the use of KC-46s while it works to address the remote vision system and other shortfalls. It is also studying the use of contracted air refueling services to add future capacity should there be shortages. The Air Force expects to complete that study in 2023.