



ACQUISITION,
TECHNOLOGY
AND LOGISTICS

THE UNDER SECRETARY OF DEFENSE

3010 DEFENSE PENTAGON
WASHINGTON, DC 20301-3010

JUN 23 2005

MEMORANDUM FOR CHAIRMAN, DEFENSE SCIENCE BOARD

SUBJECT: Terms of Reference – Defense Science Board Task Force on Future Need for VTOL/STOL Aircraft

You are requested to establish a Defense Science Board (DSB) Task Force to assess the features and capabilities VTOL/STOL aircraft should have in order to support the nation's defense needs through at least the first half of the 21st century.

Combat operations since the start of the Global War on Terrorism have included a wide variety of operations supported by helicopters: combat operations, counter-insurgency operations, security operations, as well as disaster relief and humanitarian assistance operations. Throughout this period and across the wide spectrum of operations conducted, Department of Defense (DoD) rotary wing aircraft have shown themselves to be poorly suited to many of the demands placed on them. As an example, helicopter related losses (for all causes) in Operation Iraqi Freedom are one of the leading causes of U.S. fatalities; in Operation Enduring Freedom, they are the leading cause of U.S. fatalities.

Aviation investment trends since the end of the Vietnam War have focused DoD efforts on improving the tactical air fleet. Those investments have paid handsome rewards. Conversely, the lack of investment in the DoD rotary wing fleet may have produced a fleet that is poorly suited for the current and future fights. The traditional assumption of a linear battlefield with a safe rear area has been rendered moot by the current operational realities. Rotary wing aircraft acquired based upon that assumption may not be properly designed or equipped to be survivable on the non-linear battlefield. Further, rotary wing aircraft that are demonstrating a lack of safety and survivability may fare even more poorly in the future.

An additional issue for the future is tactical heavy lift capability. This issue has been raised in a number of venues, including the DSB Task Force on Seabasing and the Army Science Board study on heavy lift rotary wing aircraft. Improving the safety and survivability of current and future rotary wing aircraft could be of great value if fully integrated with a heavy lift development capability.

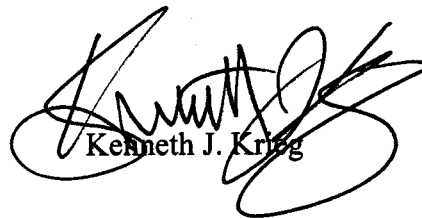
In exploring these issues, the Task Force should examine the broadest range of alternatives and be guided by the following questions:



- What is the operational environment expected to be for the next 20-50 years?
- How will distributed logistics and other supporting functions be accomplished on a distributed battlefield?
- What is the role of vertical lift aircraft (helicopter and other technologies) in supporting joint forces across the spectrum of conflict?
- What capabilities must a tactical vertical lift or STOL aircraft possess in order to provide that role?
- How best do we improve and enhance the current fleet of aircraft to that level of capability?
- What future capabilities should the Department focus development efforts on in order to ensure the Combatant Commanders are provided the necessary capabilities in the future?
- What are the synergies that are possible from heavy lift aircraft development that could enhance the safety and survivability of current and future rotary wing aircraft?
- What technologies are needed to enable future capabilities?

The study will be sponsored by me as the Under Secretary of Defense (Acquisition, Technology and Logistics), and by the Director, Defense Systems. Dr. William Howard and ADM Donald Pilling, USN (Ret), will serve as the Task Force Co-Chairmen. Mr. Michael Walsh, OUSD(AT&L), will serve as the Executive Secretary and LCDR Clifton Phillips, USN, will serve as the Defense Science Board Military Assistant.

The Task Force will be operated in accordance with the provisions of P.L. 92-463, the "Federal Advisory Committee Act," and DoD Directive 5105.4, the "DoD Federal Advisory Committee Management Program." It is not anticipated that this Task Force will need to go into any "particular matters" within the meaning of Section 208 of Title 18, U.S. Code, nor will it cause any members to be placed in the position of acting as a procurement official.



Kenneth J. Krieg