Boeing Selects Rockwell Collins Avionics Suite for Improved Cargo Helicopter

The Boeing Company in Philadelphia and Rockwell Collins in Cedar Rapids, Iowa, have established a new partnership to sustain the critical warfighting capability of the U.S. Army's CH-47 Chinook heavy cargo helicopter fleet as the Army moves into the 21st century.

After an extensive assessment of several qualified avionics suppliers, Boeing has selected Rockwell Collins to provide the integrated avionics suite of the Army's Chinooks as a major part of the Improved Cargo Helicopter (ICH) Program.

The Collins system will ensure the Chinook can play an important tactical role on the next century's digital battlefields. It features robust elements to withstand electromagnetic interference and electronic warfare measures, reliable components that are easier to maintain and repair, shipboard compatibility for joint and combined operations, and full compliance with Joint Technical Architecture - Army standards listed in the Army's ICH Avionics Upgrade Performance Specification. That specification, developed over the last three years as an outgrowth of a Navy Research Laboratory study, defines the requirements that will make ICH compatible with the digitized, Information Age battlefield envisioned for Army XXI and the Army After Next.

The ICH cockpit will retain the current CH-47D air vehicle monitoring suite and incorporate a Military Standard 1553 data bus to handle tactical data link, communications and navigation data. The new cockpit will provide modern technology controls and displays including multi-function displays, which will provide situational awareness for the flight crew via a moving digital map display with force symbol overlays and electronic messaging; control display units to provide data entry/control; and electronic flight instruments. The system also will ease cockpit workload and mission planning with the addition of a Data Transfer System that allows for loading/storing of preflight data, mission data and maintainer data.

In addition to making the Chinook a cost-effective and capable digitized tactical platform, the upgrade will cut operations and support costs because reliable solid-state systems with built-in diagnostics will replace CH-47D analog avionics. The upgrade also provides an open architecture system to allow for future growth and technology insertions including advanced aircraft survivability equipment. Coupled with head up displays projected in night vision goggles, the avionics upgrade will greatly improve flight safety at night, especially for external load operations.

The Rockwell Collins ICH configuration is a derivative of that currently flying on the MH-47D Special Operations Chinook and the RC-12, a U.S. Army fixed wing platform, making the new ICH electronic architecture a low-risk developmental element in the program.

Boeing and Rockwell Collins also will ensure the ICH system matures in parallel with the evolving Army digitization initiatives. During the ICH program's engineering and manufacturing development phase, the team will remanufacture two CH-47Ds to the ICH configuration and test their operational suitability. Production plans call for the remanufacture of at least 300 Chinooks to the ICH standard.

The Boeing Company in Philadelphia is engaged in the design, development and production of world-class military helicopters and tiltrotor aircraft. Its products include the International CH-47SD Chinook, the AH-64D Apache Longbow, and, in partnership with Sikorsky and Bell, respectively, the RAH-66 Comanche and the V-22 Osprey.

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For further information:
Jack Satterfield
(610) 591-8399