Fielding of CH-47F Chinook Cargo Helicopter to ARNG

What is it?
The CH-47F Chinook is the Army's new heavy lift helicopter that will extend the service life of the current cargo helicopter fleet by an additional 20 years. The Army plans to procure 513 CH-47 Chinooks through 2022, of which 452 will be CH-47Fs and 61 will be MH-47Gs. The platform is an upgraded CH-47D and has a gross weight of 50,000 pounds. The platform has demonstrated a capability to self deploy in excess of 1,056 nautical miles, carry a 16,000 pound load for a 50 nautical mile combat radius. The CH-47F configuration includes a redesigned fuselage consisting of a new monolithic airframe with enhanced corrosion protection and airframe tuning. The airframe incorporates enhanced air transportability features allowing for faster break down and reassembly during air transport. The Chinook incorporates the Common Aviation Architecture System (CAAS) Cockpit, the Common Missile Warning System (CMWS), advanced avionics, integrated Blue Force Tracker (BFT), and a Digital Advanced Flight Control System (DAFCS).

What has the Army done?
To date, the Army has taken delivery of 78 CH-47F aircraft consisting of 29 new build and 49 remanufactured airframes. A remanufactured CH-47F consists of a new airframe with reset components while a new build aircraft is a new airframe with all new components. The Army National Guard inventory of CH-47 Chinook heavy helicopters remained steady at an average of 130 of the required 161 throughout FY10. However, this long-term ARNG shortage (over 5 years) of 31 CH-47s is now projected to be corrected by the end of FY13, at which time the CH-47 fleet will be predominantly CH-47 D models. In FY11, the ARNG will receive its initial delivery of and begin new equipment training on the advanced CH-47 F model. The first ARNG MTOE unit is scheduled to modernize to CH-47Fs in April 2011. The Army will then continue the issue of F models to the Army National Guard to replace D models over the following 4 years to achieve a pure CH-47F fleet for the ARNG by the end of FY17.

What continuing efforts does the Army have planned?
Project Manager (PM) Cargo Helicopters initiated a CH-47F Product Improvement Plan (PIP) that is currently in test and development. The PIP, when incorporated, will provide the following upgrades to the CH-47F.

- Required Navigation Performance/Area Navigation (RNP/RNAV). The upgrade will provide a certificated CH-47F flight management system qualified for Instrument Flight Rules (IFRs) flight in the National Airspace System (NAS). RNP/RNAV is a software solution that will be applied to new aircraft and may be retrofitted to fielded platforms. The application is in flight test and is scheduled for completion in FY11.
- Alternate Communications Suite (Alt Comms). The Alt Comms update in the CH-47F replaces the current ARC 164 (UHF-AM) and ARC 186 (VHF-AM/FM) radios with (2) ARC 231 multi band radios. In addition to supporting legacy wave forms, the ARC 231 radio will provide expanded capability by adding DAMA MIL

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Satellite communication (SATCOM), Land Mobile Radio (LMR) and Maritime waveforms to the CH-47F. After the Alt Comms suite has been applied, the new avionics suite for the CH-47F will consist of two ARC 231 multi band radios, two ARC 201 D SINCGARS radios, one ARC 220 High Freq radio, and one L-Band BFT transceiver.

- Ethernet Data Loader (DR-7100). The DR-7100 will provide Ethernet data load capability to the CH-47F which will significantly improve transfer rates for all associated mission data. In addition, the DR-7100 provides capability for placing maps on a card.
- Common Fill Panel. The Common Fill Panel provides the capability to load all crypto keys to include Embedded Global Positioning System/Inertial NaviEGI keys at one location on the aircraft.
- APX-123 Mode 5. The APX-123 will provide enhanced Mode 5 Identify Friend or Foe (IFF) capability.

Why is this important to the Army?

The Army has a critical need for performance capability sustainment of the CH-47D cargo helicopter to meet the operational requirements of the current and future forces while reducing Operating and Support (O&S) costs associated with the current aging fleet. The CH-47F provides enhanced mission effectiveness by maintaining the positive aspects of the current fleet while increasing versatility, survivability, supportability, sustainability, and increasing operator and maintainer efficiency.