

France Awards Raytheon \$22 Million for Enhanced Paveway(TM) II

TUCSON, Ariz., Feb. 6, 2008 /PRNewswire/ -- The government of France awarded Raytheon Company (NYSE: RTN) a direct commercial sales contract Jan. 18 worth \$22 million for the combat-proven Enhanced Paveway(TM) II (EP2) dual-mode GPS/laser-guided precision munition and weapons integration for the French Air Force's Mirage 2000D fighter aircraft.

Raytheon's Paveway II (P2) laser-guided smart bombs already equip the Mirage 2000D, which supports U.S. and other NATO forces in Afghanistan. EP2 first achieved initial operational capability on the French Navy's Super Etendard fighter aircraft in 2007, which also benefited the French Air Force.

The contract calls for Raytheon to provide the French Air Force with upgrade kits to convert 500-pound P2 laser-guided bombs into the more capable dual-mode GBU-49 and includes additional options for more EP2 systems. The GBU-49 is a precision weapon that has been extensively employed by U.S. and allied forces in both Afghanistan and Iraq. EP2 is already in operational use on several other U.S. and NATO military aircraft including the French Navy's Super Etendard.

"EP2 gives our French operators a true all-weather precision-attack capability," said Commander Yann de Champsavin, French Navy program officer. "EP2 matches real affordability with unrivalled standoff range, accuracy and reliability. That is why EP2 is a clear weapon of choice for our Air Forces."

"France is a highly valued member of a rapidly growing number of global partners in the Enhanced Paveway program," said Ricky Freibert, director of Raytheon's Paveway program. "Raytheon's international investments continue to drive down cost for future and existing customers while greatly enhancing interoperability between militaries."

Raytheon Company, with 2007 sales of \$21.3 billion, is a technology leader specializing in defense, homeland security and other government markets throughout the world. With a history of innovation spanning more than 85 years, Raytheon provides state-of-the-art electronics, mission systems integration and other capabilities in the areas of sensing; effects; and command, control, communications and intelligence systems, as well as a broad range of mission support services. With headquarters in Waltham, Mass., Raytheon employs 72,000 people worldwide.

Note to Editors:

Enhanced Paveway weapon systems are currently providing operational flexibility and precision against a broad range of requirements and target sets in the ongoing global war on terror.

Enhanced Paveway II is an affordable all-weather dual mode GPS/laser-guided precision munition that has successfully been used in combat by the U.K.'s Royal Air Force during Operation Southern Watch and Operation Enduring Freedom.

Contact:

Mike Nachshen
520.794.4088

Michael_nachshen@raytheon.com

Source http://investor.raytheon.com/phoenix.zhtml?c=84193&p=irol-newsArticle_print&ID=1105036&highlight=Autre
source - <http://www.ausairpower.net/APA-SDB.html>

Raptor performs first drop of small diameter bomb. An F-22 Raptor drops a small diameter bomb from its weapons bay during a test mission Sept. 5 [2007]. The test marks the first airborne separation of a small diameter bomb from the internal weapons bay of an F-22. Testing of the SDB with the F-22 is part of the Increment 3.1 upgrade to the aircraft. Major Jack Fischer, 411th Flight Test Squadron test pilot noted that "Targets we can't get with most weapons, we can get with the F-22 because we have stealth, with this weapon and aircraft, there is no place we can't reach and no place for an enemy to hide." (Photo by Darin Russell, Text by 95th Air Base Wing Public Affairs, US Air Force)

Background

The SDB was conceived during the 1990s to provide an internally carried weapon which would allow the F-22A Raptor, and later JSF, to attack multiple targets. The design is sized so that the F-22 can carry eight rounds in its main weapon bays.

The SDB was operationally deployed last year, and first dropped in combat during a close air support sortie in Iraq, on October 5th, 2006.

Development of the SDB followed the Miniature Munitions Demonstration Technology (MMTD) program during the 1990s.

The US Air Force intends to procure 24,000 or more rounds for carriage on new and legacy combat aircraft; of these half will be baseline weapons equipped for attacking fixed targets, and the remainder a variant equipped to attack moving targets.

Design aims for the SDB included a capability to penetrate hardened targets and provide better accuracy than the JDAM. The MMTD effort included a focus on key technologies including the Hard Target Smart Fuze, High Energy Explosives, Penetrator Design, Optimal Guidance, Robust Autopilot, Differential GPS/INS, and an Advanced Seeker. The Optimal Guidance is a unique feature, it is designed to align the bomb body exactly with the weapon's velocity vector at the point of impact, as this maximises penetration of the target - all of the bomb's kinetic energy is used to drive the weapon in - older guidance systems did not achieve this and velocity components tangential to the impact would at best waste energy, at worst contribute to premature casing rupture.

The production SDB is equipped with Rockwell Collins GPS receiver, with a Harris anti-jam module, and a Honeywell inertial unit, a KDI Precision Products reprogrammable electronic fuse (airburst, contact and delay modes), HR Textron

tailfin actuators, MBDA diamondback foldout wings, with a TAM Garland 50 lb forged casing warhead. A Mil-Std-1760 interface is used. The launcher is a Sargent Fletcher pneumatic ejector system in the Boeing BRU-61/A bomb rack.

SRI are providing differential GPS ground stations, required to enhance SDB accuracy over JDAM and other conventional munitions.

The glide wings provide a quoted delivery range of around 60 nautical miles for a high altitude release. The weapon performs a 180 degree roll post launch as the stowed configuration has the folded wings beneath the weapon.

The cited blast radius is 26 ft (cf 82 ft with 2,000-lb JDAM). Boeing claim the ability to penetrate more than 5 ft of steel reinforced concrete making the SDB competitive against the BLU-109/B for many targets.

The SDB will be most effective in the urban and broader close air support, battlefield interdiction, Destruction of Enemy Air Defences (DEAD) lethal suppression and counter-air strike airfield attack roles. Against soft skinned vehicles and structures, armour, point emplacements, runways, aircraft shelters and SAM/SPAAG systems this weapon will be highly lethal.

Where the SDB will be less than effective is against deep / hardened bunkers, large infrastructure targets, large buildings, industrial plant, bridges, large trench systems, vehicle parks, infantry on the move and other area or large point targets. These remain the domain of larger specialised bunker busting weapons, or large explosive bombs such as the Mk.83/BLU-110 (1,000 lb), Mk.84/BLU-117/BLU-119 (2,000 lb), BLU-109/116/118 (2,000 lb), BLU-113/122 (5,000 lb).

The GBU-40/B / GBU-42/B Small Diameter Bomb II is in development, it will be equipped with a multimode terminal seeker and two way datalink, and is expected to enter production at the end of the decade.