

**DEPARTMENT OF DEFENSE**

**Office of the Secretary**

[Transmittal No. 06-33]

**36(b)(1) Arms Sales Notification**

**AGENCY:** Department of Defense, Defense Security Cooperation Agency.

**ACTION:** Notice.

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**SUMMARY:** The Department of Defense is publishing the unclassified text of a section 36(b)(1) arms sales notification. This is published to fulfill the requirements of section 155 of Public Law 104-164 dated 21 July 1996.

**FOR FURTHER INFORMATION CONTACT:** Ms. J. Hurd, DSCA/DBO/CFM, (703) 604-6575.

The following is a copy of a letter to the Speaker of the House of Representatives, Transmittal 06-33 with attached transmittal, policy justification, and Sensitivity of Technology.

Dated: September 28, 2006.

**C.R. Choate,**

*Alternate OSD Federal Register Liaison Officer, Department of Defense.*

**BILLING CODE 5001-06-M**



## DEFENSE SECURITY COOPERATION AGENCY

WASHINGTON, DC 20301-2800

27 SEP 2006

**In reply refer to:  
I-06/005300**

**The Honorable J. Dennis Hastert  
Speaker of the House of Representatives  
Washington, DC 20515-6501**

**Dear Mr. Speaker:**

**Pursuant to the reporting requirements of Section 36(b)(1) of the Arms Export Control Act, as amended, we are forwarding herewith Transmittal No. 06-33, concerning the Department of the Navy's proposed Letter(s) of Offer and Acceptance to Finland for defense articles and services estimated to cost \$300 million. After this letter is delivered to your office, we plan to issue a press statement to notify the public of this proposed sale.**

**Sincerely,**

A handwritten signature in cursive script that reads "Richard J. Millies".

**Richard J. Millies  
Deputy Director**

**Enclosures:**

- 1. Transmittal**
- 2. Policy Justification**
- 3. Sensitivity of Technology**

**Same ltr to:**

**House  
Committee on International Relations  
Committee on Armed Services  
Committee on Appropriations**

**Senate  
Committee on Foreign Relations  
Committee on Armed Services  
Committee on Appropriations**

## Transmittal No. 06-33

Notice of Proposed Issuance of Letter of Offer  
Pursuant to Section 36(b)(1)  
of the Arms Export Control Act, as amended

- (i) Prospective Purchaser: Finland
- (ii) Total Estimated Value:
- |                          |                       |
|--------------------------|-----------------------|
| Major Defense Equipment* | \$ 75 million         |
| Other                    | \$ <u>225 million</u> |
| TOTAL                    | \$ 300 million        |
- (iii) Description and Quantity or Quantities of Articles or Services under Consideration for Purchase: the third phase of the F/A-18 Mid-Life Upgrade (MLU) Program, consisting of F/A-18C/D Fleet Retrofit Kits of the following systems:
- 67 AN/APG-73 Expand 4/5 Upgrades,
  - 3 AN/RT-1851 Radio Transmitters,
  - 5 Multifunctional Information Display Systems (MIDS/LVT),
  - 10 Advanced Tactical Forward Looking Infrared Radar (ATFLIR),
  - 4 AN/ALR-67V(3) Radar Warning Receivers,
  - 5 AN/AYK-14 Mission Computer Upgrades,
  - 2 GBU-31 Joint Direct Attack Munitions (JDAM),
  - 2 AGM-154A Joint Stand Off Weapons (JSOW),
  - 1 AGM-84K Stand-Off Land Attack Missile/Expanded Response (SLAM-ER), and
  - 1 AGM-88E Advanced Anti-Radiation Guided Missile (AARGM).
- The proposed program support includes recorders, receivers, devices, systems, APX-111 Combined Interrogator Transponders Mode S, component improvement program, spare and repair parts, support and test equipment, publications and technical data, personnel training and equipment, U.S. Government and contractor engineering and other related elements of logistics and program management support.
- (iv) Military Department: Navy (LBD)
- (v) Prior Related Cases, if any:
- FMS case LBC - \$127 million - 1Jan04
  - FMS case LBB - \$ 63 million - 4Aug01

\* as defined in Section 47(6) of the Arms Export Control Act.

- (vi) Sales Commission, Fee, etc., Paid, Offered, or Agreed to be Paid: none
- (vii) Sensitivity of Technology Contained in the Defense Article or Defense Services Proposed to be Sold: none
- (viii) Date Report Delivered to Congress: 27 SEP 2006

## POLICY JUSTIFICATION

### Finland – F/A-18 Mid-Life Upgrade Program

The Government of Finland has requested a possible sale for the third phase of the F/A-18 Mid-Life Upgrade (MLU) Program, consisting of F/A-18C/D Fleet Retrofit Kits of the following systems:

- 67 AN/APG-73 Expand 4/5 Upgrades,
- 3 AN/RT-1851 Radio Transmitters,
- 5 Multifunctional Information Display Systems (MIDS/LVT),
- 10 Advanced Tactical Forward Looking Infrared Radar (ATFLIR),
- 4 AN/ALR-67V(3) Radar Warning Receivers,
- 5 AN/AYK-14 Mission Computer Upgrades,
- 2 GBU-31 Joint Direct Attack Munitions (JDAM),
- 2 AGM-154A Joint Stand Off Weapons (JSOW),
- 1 AGM-84K Stand-Off Land Attack Missile/Expanded Response (SLAM-ER), and
- 1 AGM-88E Advanced Anti-Radiation Guided Missiles (AARGM).

The proposed program support includes recorders, receivers, devices, systems, APX-111 Combined Interrogator Transponders Mode S, components improvement program, spare and repair parts, support and test equipment, publications and technical data, personnel training and equipment, U.S. Government and contractor engineering and other related elements of logistics and program management support. The estimated cost is \$300 million.

This proposed sale will contribute to the foreign policy and national security of the United States by helping to improve the security of a friendly country which has been, and continues to be, an important force for political stability and economic progress in Europe.

The Finnish Air Force (FAF) intends to purchase the MLU Program equipment to enhance survivability, communications connectivity, and extend the useful life of its F/A-18 fighter aircraft. It has extensive experience operating the F/A-18 aircraft and should have no difficulties incorporating the upgraded capabilities into its forces. The FAF needs this upgrade to keep pace with high tech advances in sensors, weaponry, and communications.

The proposed sale of this equipment and support will not affect the basic military balance in the region.

The prime contractor will be The Boeing Company of St. Louis, Missouri. There are no known offset agreements proposed in connection with this potential sale.

Implementation of this proposed sale will require the assignment of a few U.S. Government or contractor representatives to travel to Finland for approximately four

**months. They will provide technical support during the preparation, equipment installation/testing, and checkout.**

**There will be no adverse impact on U.S. defense readiness as a result of this proposed sale.**

## Transmittal No. 06-33

**Notice of Proposed Issuance of Letter of Offer  
Pursuant to Section 36(b)(1)  
of the Arms Export Control Act**

**Annex  
Item No. vii**

**(vii) Sensitivity of Technology:**

**1. The third phase of the F/A-18 Mid-Life Upgrade (MLU) Program consisting of F/A-18C/D Fleet Retrofit Kits will include the following classified or sensitive components and weapons:**

**a. The AN/ARC-210 Radio (RT-1851 or RT-1745A), including Single Channel Ground and Airborne Radio Systems (SINCGARS), FM Immunity, 8.33 KHz channel spacing, Variable Message Format (VMF), HAVEQUICK and Embedded Secure Voice capabilities. The AN/ARC-210 transceiver can be operated as a normal non-Electronic Counter Countermeasures (ECM) type VHF/UHF radio system. Addition of various types of ECCM module subassemblies enables the AN/ARC-210 Communications System to operate in SATCOM and jam-resistant modes.**

**b. The Multifunctional Information Distribution System (MIDS) Low Volume Terminal (LVT) is a secure data and voice communication network using the Link-16 architecture. The system provides enhanced situational awareness, positive identification of participants within the network, secure fighter-to-fighter connectivity, secure voice capability, and ARN-118 TACAN functionality. It provides three major functions: Air Control, Wide Area Surveillance, and Fighter-to-Fighter. The MIDS LVT can be used to transfer data in Air-to-Air, Air-to-Surface, and Air-to-Ground scenarios. MIDS LVT is classified confidential. The MIDS Enhanced Interference Blanking Units (EIBU) provides validation and verification of equipment and concept. EIBU enhances input/output signal capacity of the MIDS LVT and addresses parts obsolescence.**

**c. The Global Positioning System (GPS) upgrade to include MAGR 2000 with Selective Availability Anti-Spoofing Module (SAASM) and Complementary Navigation Message (CNM) for use with GPS guided munitions. Employment of GPS Smart weapons requires the use of the CNM and Precise Position Service (PPS). The requirement is to upgrade to the PPS GPS system to provide CNM to GPS Guided Weapons. GPS and Navigation Systems (GNS) act as the Center to coordinate military efforts. GNS offers the most advanced military GPS user equipment available, including avionics, high anti-jam systems, integrated GPS/INS navigators, and high**

performance Selective Availability Anti-Spoof Module (SAASM) receivers. The MAGR 2000 design is a GPS Receiver Applications Module (GRAM) based upon system architecture that is modular in design and incorporates modern electronics. The MAGR 2000 is a form, fit, and function backward compatible replacement of the MAGR, and provides enhancements to include improved acquisition and GPS solution performance, all-in-view GPS satellite tracking, and GPS integrity. The use of the SAASM security architecture significantly enhances the combatant commander's ability to use GPS precise positioning, velocity and time, in all environments. Complementary Navigation Message contains navigation message data demodulated from the GPS satellite signals that has been stripped of parity and packed together. All countries authorized PPS equipment can buy GPS receivers that output the CNM. MAGR 2000 includes CNM. The configuration requested is compatible for use in F/A-18 aircraft.

d. The AN/APG-73 Radar System is classified Secret. The APG-73 Radar will be upgraded to include Expand 4/5 Air-to-Ground Modes and displays. The radar provides the F/A-18 aircraft with all-weather, multi-mission capability for performing air-to-air and air-to-ground targeting and attack. Air-to-air modes provide the capability for all-aspect target detection, long-range search and track, automatic target acquisition, and tracking of multiple targets. Air-to-surface attack modes provide high-resolution ground mapping navigation, weapon delivery, and sensor cueing. The Expand 4/5 Radar Upgrade (RUG II) technology will allow Higher Resolution Air-to-Ground Synthetic Aperture Radar maps to be displayed in the cockpit. The system component hardware (Antenna, Transmitter, Radar Data Processor, and Power Supply) is Unclassified. The Receiver-Exciter hardware is Confidential.

e. The existing AYK-14 Mission Computer faces severe obsolescence and throughput issue. The redesign will replace all Subsystem Replaceable Assemblies (SRA) with a single, modernized SRA. This new technology will drive an update to the existing Military standards for Avionics communications (MIL-STD-1553C).

f. The upgrade of the ALR-67V(2) Radar Warning Receiver (RWR) to the ALR-67V(3) RWR provides increased sensitivity, dual polarity wave detection, and microwave wavelength detection in order to more thoroughly cover and detect the variety of newer waveforms that modern aircraft, ships and ground sites emit.

g. The Airborne Self-Protection Jammer (ASPJ) system software will be upgraded to be compatible with ALR-67V(3).

h. The Joint Mission Planning System (JMPS) will provide mission planning capability for support of military aviation operations. It will also provide support for unit-level mission planning for all phases of military flight operations and have the



capability to provide necessary mission data for the aircrew. JMPS will support the downloading of data to electronic data transfer devices for transfer to aircraft and weapon systems. A JMPS for a specific aircraft type will consist of basic planning tools called the Joint Mission Planning Environment (JMPE) mated with a Unique Planning Component (UPC) provided by the aircraft program. In addition, UPCs will be required for specific weapons, communication devices, and moving map displays in order for proper Mission Planning.

i. The Solid State Recorder (SSR) capabilities incorporated into the F-18C/D aircraft as both a replacement to the existing Cockpit Video Recording System (CVRS) as well as adding capability to capture and store Electro-optical/Infrared (EO/IR) Imagery. Use of SSR technology will overcome numerous obsolescence issues with the existing CVRS, provides greater memory capacity, and allows for future network centric operations such as real-time/near real-time imagery in/out of cockpit.

j. The AN/ASQ-228 Advance Targeting Forward-Looking Infrared (ATFLIR) is a multi-sensor, electro-optical targeting pod incorporating infrared, low-light television camera, laser rangefinder/target designator, and laser spot tracker. It is used to provide navigation and targeting for military aircraft in adverse weather and using precision-guided weapons such as laser-guided bombs.

k. The LITENING is a targeting pod integrated and mounted externally to the aircraft. The targeting pod contains a high-resolution, forward-looking infrared sensor (FLIR) that displays an infrared image of the target to the aircrew; it has a wide field of view search capability and a narrow field of view acquisition/targeting capability of battlefield-sized targets. The pod contains a charged coupled device (CCD-TV) camera used to obtain target imagery in the visible portion of the electromagnetic spectrum. An on-gimbal inertial navigation sensor has established line-of-sight and automatic bore sighting capability. The pod is equipped with a laser designator for precise delivery of laser-guided munitions. A laser rangefinder provides information for various avionics systems, for example, navigation updates, weapon deliveries and target updates. It includes an automatic target tracker to provide fully automatic stabilized target tracking at altitudes, airspeeds and slant ranges consistent with tactical weapon delivery maneuvers. These features simplify the functions of target detection and recognition and permit attack of targets with precision-guided weapons on a single pass.

l. The Joint Direct Attack Munition (JDAM) GBU-31 is a weapon with high accuracy, all-weather, autonomous, conventional bombing capability. JDAM will upgrade the existing inventory of general purpose and penetration unitary bombs, and a product improvement may add a terminal seeker to improve accuracy. JDAM can be launched from approximately 15 miles from the target and each is independently targeted.

**m. The Standoff Land Attack Missile/Expanded Response (SLAM-ER) is an air-launched, day/night, adverse weather, over-the-horizon, precision strike missile. SLAM-ER provides an effective, long range, precision strike option for both pre-planned and Target-of-Opportunity attack missions against land and maneuvering ship targets, and other moving targets. SLAM-ER contains a highly accurate, GPS-aided guidance system; an imaging infrared seeker and two-way data link with the AWW-13 Advanced Data Link pod for Man-In-The-Loop (MITL) control; improved missile aerodynamic performance characteristics that allow both long range and flexible terminal attack profiles; and an ordnance section with good penetrating power and lethality. Advanced features on SLAM-ER include Automatic Target Acquisition (ATA). This function improves target acquisition in cluttered scenes, overcomes most IR countermeasures, and mitigates the effects of environmentally degraded conditions. The SLAM-ER is classified Confidential, individual components (guidance, seeker, radome, warhead, and other components) are all classified Confidential; technical data and other documentation are classified up to Secret.**

**n. The AGM-154A Joint Standoff Weapon (JSOW) is a low observable, 1000 lb. class, INS/GPS-guided, family of air-to-ground glide weapons. JSOW consists of a common airframe and avionics that provides for a modular payload assembly to attack stationary and moving massed light-armored and armored vehicle columns, surface-to-air targets and personnel. JSOW provides combat forces with all weather, day/night, multiple kills per pass, launch and leave, and standoff capability. JSOW A contains BLU-97 Combined Effects submunitions effective against light armored vehicles, soft targets and personnel. The JSOW All Up Round is Unclassified, major components and subsystems are classified up to Secret; and technical data and other documentation are to Secret.**

**o. The AGM-88E Advanced Anti-Radiation Guided Missile (AARGM) Project is a dual-mode guidance section on a HARM airframe. The AARGM technology program is designed with a Dual-mode (passive Anti-Radiation Homing/active Millimeter Wave radar) missile and can engage and destroy enemy air defenses in the event that these systems “shut-down” or employ other countermeasures.**

**2. If a technologically advanced adversary were to obtain knowledge of the specific hardware and software elements, the information could be used to develop countermeasures which might reduce weapon system effectiveness or be used in the development of a system with similar or advanced capabilities.**