

approximately 2.4 pounds - are mounted externally to provide aircraft protection in four quadrants. The externally mounted sensor units detect laser illumination over the entire aircraft. In operation, the laser warning system identifies the threat's direction and prioritizes in order of lethality. The hardware is classified CONFIDENTIAL; releasable technical manuals for operation and maintenance are classified SECRET.

b. AN/AAR-57, Common Missile Warning System (CMWS) CMWS provides superior detection of infrared missile threats for rotary-wing, transport and tactical aircraft. It is the detection component of a suite of countermeasures to increase the survivability of current generation of combat, airlift and special operations aircraft against the threat posed by infrared guided missiles. Each platform includes: Electro-optical Missile Sensors, and Electronic Control Unit (ECU) Sequencer, and the Improved Countermeasures Dispenser (ICMD). The ECU hardware is classified CONFIDENTIAL; releasable technical manuals for operation and maintenance are classified SECRET.

c. Honeywell Embedded Global Positioning Systems (GPS) with Inertial Navigation System (INS) (EGI). GPS/INS utilizes GPS satellite signals to correct or calibrate a solution from an INS. Inertial navigation systems usually can provide an accurate solution only for short duration. The INS accelerometers produce an unknown bias signal that appears as a genuine specific force. The EGI is UNCLASSIFIED.

d. Target Acquisition and Designation Sights, Pilot Night Vision System (TADS/PNVs). The TADS/PNVs is the combined sensor and targeting unit fitted to the Boeing AH-64 Apache helicopter. Both systems are independent, but housed together. TADS contain stabilized electro-optical sensors, a laser rangefinder and laser target designator. The TADS assembly can rotate +/- 120 degrees in azimuth, +30/-80 degrees in elevation and can move independently of the PNVs. TADS contains a tomographic camera and monochrome daylight television camera. PNVs is a mounted above the TADS, and contains an infrared camera

slaved to the head movements of the pilot. PNVs can rotate +/- 90 degrees in azimuth and +20/-45 degrees in elevation; with a high rate of movement (120 degrees per second) so as to match the head movement of the pilot. Hardware for the TADS/PNVs is UNCLASSIFIED. The technical manuals for authorized maintenance levels are UNCLASSIFIED. Reverse engineering is not a major concern.

e. The AGM-114R HELLFIRE Missile is precision strike, Semi-Active Laser (SAL) guided missile and is the principle air to ground weapon for the AH-64 Apache. The SAL HELLFIRE missile is guided by laser energy reflected off the target. It has three warhead variants: a dual warhead, shape-charge, high explosive anti-tank capability for armored targets, a blast fragmentation warhead for urban patrol boat and other soft targets and metal augmented charge warhead for urban structures. AGM-114R allows selection of warhead effects corresponding to a specific target type. Hardware for the AGM-114R is UNCLASSIFIED. The technical manuals for authorized maintenance levels are UNCLASSIFIED.

f. The AN/APR-39D(V)2 Radar Warning Receiver is currently in development with a projected IOC date of 4Q2017, and will replace the AN/APR-39A(V)1/4 Radar Warning Receiver (RWR) that has been in production since the mid-1970's. The AN/APR-39D(V)2 is an Engineering Change Proposal (ECP) that fixes documented deficiencies against legacy AN/APR-39 systems by merging the AN/APR-39C(V)2 baseline with Northrop Grumman's Digital Receiver Excited (DRE) technology and combines a 4-Channel Crystal Video Receiver (CV R) and a 2 channel Digital Receiver (DR). The result is the following capability improvements: increased Probability of Detection (Sensitivity); Corrects ID/Ambiguity Resolution; Improves DOA Accuracy versus Circular Polarized (CP) Emitters; and improves DOA Indications versus CID Band Emitters. System will be classified at the SECRET level.

g. The M36E9 Captive Air Training Missile (CATM) is a HELLFIRE training missile (Non-NATO) that consists of a functional guidance section coupled to an inert missile bus. The missile has an

operational semi-active laser seeker that can search for and lock-on to laser designated targets for pilot training, but it does not have a warhead or propulsion section and cannot be launched.

2. A determination has been made that Egypt can provide substantially the same degree of protection of this technology as the U.S. Government. This proposed sale is necessary in furtherance of U.S. foreign policy and national security objectives outlined in the Policy Justification. Moreover, the benefits to be derived from this sale, as outlined in the Policy Justification, outweigh the potential damage that could result if the sensitive technology were revealed to unauthorized persons.

3. All defense articles and services listed on this transmittal are authorized for release and export to the Government of Egypt.

[FR Doc. 2019-01229 Filed 2-5-19; 8:45 am]

BILLING CODE 5001-06-P

## DEPARTMENT OF DEFENSE

### Office of the Secretary

[Transmittal No. 18-43]

#### Arms Sales Notification

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

**ACTION:** Arms sales notice.

**SUMMARY:** The Department of Defense is publishing the unclassified text of an arms sales notification.

**FOR FURTHER INFORMATION CONTACT:** Karma Job at [karma.d.job.civ@mail.mil](mailto:karma.d.job.civ@mail.mil) or (703) 697-8976.

**SUPPLEMENTARY INFORMATION:** This 36(b)(1) arms sales notification is published to fulfill the requirements of section 155 of Public Law 104-164 dated July 21, 1996. The following is a copy of a letter to the Speaker of the House of Representatives, Transmittal 18-43 with attached Policy Justification.

Dated: February 1, 2019.

**Shelly E. Finke,**

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

BILLING CODE 5001-06-P



## DEFENSE SECURITY COOPERATION AGENCY

201 12<sup>TH</sup> STREET SOUTH, STE 203  
ARLINGTON, VA 22202-5408

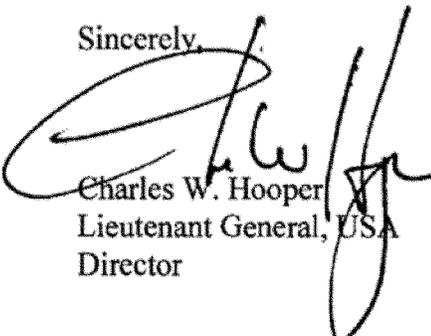
The Honorable Paul D. Ryan  
Speaker of the House  
U.S. House of Representatives  
Room H-209, The Capitol  
Washington, DC 20515

NOV 27 2018

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. 18-43, concerning the Air Force's proposed Letter(s) of Offer and Acceptance to the Government of Qatar for defense articles and services estimated to cost \$215 million. After this letter is delivered to your office, we plan to issue a news release to notify the public of this proposed sale.

Sincerely,



Charles W. Hooper  
Lieutenant General, USA  
Director

Enclosures:

1. Transmittal
2. Policy Justification
3. Sensitivity of Technology
4. Regional Balance (Classified document provided under separate cover)

Transmittal No. 18-43

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:* Qatar

(ii) *Total Estimated Value:*

Major Defense Equipment * ..	\$ 95 million
Other .....	\$120 million
TOTAL .....	\$215 million

(iii) *Description and Quantity or Quantities of Articles or Services under Consideration for Purchase:* The Government of Qatar has requested to buy defense articles and services from the U.S. Government in support of a Direct Commercial Sales of the National Advanced Surface to Air Missile System (NASAMS).

*Major Defense Equipment (MDE):*

Forty (40) AIM-120C-7 Advanced Medium Range Air-to-Air Missiles (AMRAAM)

One (1) spare AIM-120C-7 AMRAAM Guidance Section

*Non-MDE:*

Also included are one (1) spare AIM-120C-7 control section, eight (8) AMRAAM Captive Air Training Missile (CATM-120C), missile containers, classified software for the AN/MPQ-64F1 Sentinel Radar, spare and repair parts, cryptographic and communication security devices, precision navigation equipment, other software, site surveys, weapons system equipment and computer software support, publications and technical documentation, common munitions and test equipment, repair and return services and equipment, personnel training and training equipment, integration support and test equipment, and U.S. Government and contractor, engineering, technical and logistics support services, and other related elements of logistical and program support.

(iv) *Military Department:* Air Force (QA-D-YAE); Army (QA-B-UAS)

(v) *Prior Related Cases, if any:* N/A

(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:* See Attached Annex

(viii) *Date Report Delivered to Congress:* November 27, 2018

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

#### POLICY JUSTIFICATION

*Qatar—Advanced Medium Range Air-to-Air Missiles (AMRAAM) and Related Equipment and Support for NASAMS*

The Government of Qatar has requested to buy defense articles and

services from the U.S. Government in support of a Direct Commercial Sale of the National Advanced Surface to Air Missile System (NASAMS). The items Qatar requests include the following: forty (40) AIM 120C-7 AMRAAM missiles, one (1) spare AIM 120C-7 AMRAAM guidance section, one (1) spare AIM-120C-7 control section, eight (8) AMRAAM Captive Air Training Missile (CATM-120C), missile containers, classified software for the AN/MPQ-64F1 Sentinel Radar, spare and repair parts, cryptographic and communication security devices, precision navigation equipment, other software, site surveys, weapons system equipment and computer software support, publications and technical documentation, common munitions and test equipment, repair and return services and equipment, personnel training and training equipment, integration support and test equipment, and U.S. Government and contractor, engineering, technical and logistics support services, and other related elements of logistical and program support. The estimated cost is \$215 million.

This proposed sale supports the foreign policy and national security objectives of the United States by helping improve the security of a key partner which has been, and continues to be, a significant host and member of coalition forces in the Middle East.

This proposed sale improves Qatar's defense capability to deter regional threats and strengthen its homeland defense. The NASAMS capability would provide a full range of protection from imminent hostile cruise missile, unmanned aerial vehicle, rotary wing, and fixed wing threats. Qatar will have no difficulty in absorbing this equipment.

The proposed sale will not alter the basic military balance in the region.

The principal contractor and integrator will be Raytheon Missiles Systems of Tucson, Arizona. There are no known offset agreements proposed in connection with this potential sale.

Implementation of this proposed sale will not require the assignment of additional U.S. Government and contractor representatives to Qatar.

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

Transmittal No. 18-43

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. AIM-120C Advance Medium Range Air-to-Air Missile (AMRAAM) is a radar guided missile featuring digital technology and micro-miniature solid-state electronics. AMRAAM capabilities include look-down/shoot-down, multiple launches against multiple targets, resistance to electronic counter measures, and interception of high flying and low flying and maneuvering targets. AIM-120 Captive Air Training Missiles are non-functioning, inert missile rounds used for armament load training, which also simulate the correct weight and balance of live missiles during captive carry on training sorties. Although designed as an air-to-air missile, the AMRAAM can also be employed in a surface-launch mode when integrated on systems such as National Advanced Surface-to-Air System (NASAMS). The AIM-120C-7, as employed on NASAMS, protects national assets from imminent hostile air threats. The AMRAAM All Up Round is classified CONFIDENTIAL, major components and subsystems range from UNCLASSIFIED to CONFIDENTIAL, and technology data and other documentation are classified up to SECRET.

2. The classified radar operational software utilized with the exportable AN/MPQ-4F1 Sentinel Radar contains specific Electronic Counter-Counter Measures (ECCM) capability, but it does not contain Non-Cooperative Target Recognition (NCTR)/classification capabilities. This software will be released for export only in an executable format with no source code. Without source code, the ability of a foreign company or government to analyze the operating software, its processes, and its algorithms is slowed. The highest classification of this software is SECRET.

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

4. A determination has been made that Qatar can provide substantially the same degree of protection of this technology as the U.S. Government. This proposed sale furthers the U.S.

foreign policy and national security objectives outlined in the Policy Justification. Moreover, the benefits to be derived from this sale, as outlined in the Policy Justification, outweigh the potential damage that could result if the sensitive technology were revealed to unauthorized persons.

5. All defense articles and services listed in this transmittal are authorized for release and export to the Government of Qatar.

[FR Doc. 2019-01228 Filed 2-5-19; 8:45 am]

**BILLING CODE 5001-06-P**

## **DEPARTMENT OF DEFENSE**

### **Office of the Secretary**

**[Transmittal No. 18-47]**

### **Arms Sales Notification**

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

**ACTION:** Arms sales notice.

**SUMMARY:** The Department of Defense is publishing the unclassified text of an arms sales notification.

**FOR FURTHER INFORMATION CONTACT:**

Karma Job at [karma.d.job.civ@mail.mil](mailto:karma.d.job.civ@mail.mil) or (703) 697-8976.

**SUPPLEMENTARY INFORMATION:** This 36(b)(1) arms sales notification is published to fulfill the requirements of section 155 of Public Law 104-164 dated July 21, 1996. The following is a copy of a letter to the Speaker of the House of Representatives, Transmittal 18-47 with attached Policy Justification.

Dated: February 1, 2019.

**Shelly E. Finke,**

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

**BILLING CODE 5001-06-P**