Billing Code: 5001-06

DEPARTMENT OF DEFENSE

Office of the Secretary

[Transmittal No. 19-10]

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 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 19-10 with attached Policy Justification and Sensitivity of Technology.

Dated: June 7, 2019.

Aaron T. Siegel,

Alternate OSD Federal Register Liaison Officer,

Department of Defense.

DEFENSE SECURITY COOPERATION AGENCY
201 12TH STREET SOUTH, STE 203
ARLINGTON, VA 22202-5408

MAR 2 2 2019

The Honorable Nancy Pelosi
Speaker of the House
U.S. House of Representatives
H-209, The Capitol
Washington, DC 20515

Dear Madam 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. 19-10 concerning the Air Force's proposed Letter(s) of Offer and Acceptance to the Government of Morocco for defense articles and services estimated to cost $985.2 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. 19-10

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: Kingdom of Morocco

(ii) Total Estimated Value:

Major Defense Equipment*	$252.9 million
Other	$732.3 million
TOTAL	$985.2 million

(iii) Description and Quantity or Quantities of Articles or Services under Consideration for Purchase: Morocco has requested to upgrade its existing 23 F-16 aircraft to F-16V configuration.

Major Defense Equipment (MDE):
Twenty-six (26) APG-83 Active Electronically Scanned Array (AESA) Radars (includes 3 spares)
Twenty-six (26) Modular Mission Computers (includes 3 spares)
Twenty-six (26) Link-16 Multifunctional Information Distribution Systems – JTRS (MIDS-JTRS) with TACAN and ESHI Terminals (includes 3 spares)
Twenty-six (26) LN260 Embedded Global Navigation Systems (EGI) (includes 3 spares)
Twenty-six (26) Joint Helmet Mounted Cueing Systems II (includes 3 spares)
Twenty-six (26) Improved Programmable Display Generators (iPDG) (includes 3 spares)
Fifty (50) LAU-129 Multi-Purpose Launchers
Twenty-six (26) AN/AAQ-33 Sniper Pods

Non-MDE:
Also included are twenty-six (26) AN/ALQ-213 EW Management Systems; twenty-six (26) Advanced Identification Friend/Foe; Joint Mission Planning System; twenty-six (26) AN/ALQ-211 AIDEWS; six (6) DB-110 Advanced Reconnaissance Systems; secure communications, cryptographic precision navigation equipment; spares and repair parts; support equipment; personnel training and training equipment; publications and technical documentation; support and test equipment; simulators; integration and test; U.S. Government and contractor engineering, technical and logistical support services; and other related elements of logistics and program support.

(iv) Military Department: Air Force (MO-D-QAL)

(v) Prior Related Cases, if any: MO-D-SAY

(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: **March 22, 2019**

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

POLICY JUSTIFICATION

Morocco – F-16 Block 52+ Upgrade to F-16V Configuration

The Government of Morocco has requested to upgrade its existing twenty-three F-16 aircraft to the F-16V configuration. The requested buy includes twenty-six (26) APG-83 Active Electronically Scanned Array (AESA) Radars (includes 3 spares), twenty-six (26) Modular Mission Computers (includes 3 spares), twenty-six (26) Link-16 Multifunctional Information Distribution System – JTRS (MIDS-JTRS) with TACAN and ESHI Terminals (includes 3 spares), twenty-six (26) LN260 Embedded Global Navigation Systems (EGI) (includes 3 spares), twenty-six (26) Joint Helmet Mounted Cueing Systems II (includes 3 spares), twenty-six (26) Improved Programmable Display Generators (iPDG) (includes 3 spares), fifty (50) LAU-129 Multi-Purpose Launchers; and twenty-six (26) AN/AAQ-33 Sniper Pods. Also included are twenty-six (26) AN/ALQ-213 EW Management Systems; twenty-six (26) Advanced Identification Friend/Foe; Joint Mission Planning System; twenty-six (26) AN/ALQ-211 AIDEWS; six (6) DB-110 Advanced Reconnaissance Systems; secure communications, cryptographic precision navigation equipment; spares and repair parts; support equipment; personnel training and training equipment; publications and technical documentation; support and test equipment; simulators; integration and test; U.S. Government and contractor engineering, technical and logistical support services; and other related elements of logistics and program support. The estimated cost is $985.2 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 major Non-NATO ally that continues to be an important force for political stability and economic progress in North Africa.

The proposed sale will contribute to Morocco's self-defense capabilities. The purchase will improve interoperability with the United States and enhance Morocco’s ability to undertake coalition operations, as it has done in the past in flying sorties against ISIS in Syria and Iraq. Morocco already operates an F-16 fleet and will have no difficulty absorbing this aircraft and services into its armed forces.

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

The prime contractor will be Lockheed Corporation, Bethesda, Maryland. The purchaser

typically requests offsets. Any offset agreement will be defined in negotiations between the purchaser and the contractor.

Implementation of this proposed sale will require the assignment of 10 additional U.S. Government and approximately 75 contract representatives to Morocco.

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

Transmittal No. 19-10

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. This sale will involve the release of sensitive technology to Morocco. The F-16C/D Block 52 upgrade of Morocco's fleet to the "V" configuration of the weapon system is unclassified, except as noted below. The aircraft utilizes the F-16 airframe and features advanced avionics and systems. It contains the existing Pratt & Whitney F100-PW-229 EEP, and will be upgraded to include the following: AN/APG-83 radar, digital flight control system, internal and external electronic warfare equipment, Advanced IFF, LINK-16 datalink, operational flight trainer, and software computer programs.

2. Sensitive and/or classified (up to SECRET) elements of the proposed F-16 V include hardware, accessories, components, and associated software: APG-83 AESA Radars, Modular Mission Computers, Improved Programmable Display Generator (iPDG), Link-16 MIDS-JTRS with TACAN and ESHI terminals, Embedded GPS-INS (EGI) LN-260, Joint Helmet Mounted Cueing System II (JHMCS), Advanced Identification Friend or Foe (AIFF), Joint Mission Planning System, AN/ALQ-211 AIDEWS, DB-110 Advanced Reconnaissance Systems, Multi-Purpose Launchers LAU-129, Sniper (AN/AAQ-33) targeting pods, AN/ALQ-213 EW Management Systems, Secure Communications, Cryptographic Appliques, and Improved Programmable Display Generators. Additional sensitive items include operating manuals and maintenance technical orders containing performance information, operating and test procedures, and other information related to support operations and repair. The hardware, software, and data identified are classified to protect vulnerabilities, design and performance parameters and other similar critical information.

3. The AN/APG-83 is an Active Electronically Scanned Array (AESA) radar upgrade for the F-16. It includes higher processor power, higher transmission power, more sensitive receiver

electronics, and Synthetic Aperture Radar (SAR), which creates higher-resolution ground maps from a greater distance than existing mechanically scanned array radars (e.g., APG-68). The upgrade features an increase in detection range of air targets, increases in processing speed and memory, as well as significant improvements in all modes. The highest classification of the radar is SECRET.

4. Modular Mission Computer (MMC) is the central aircraft computer of the F-16. It serves as the hub for all aircraft subsystems and avionics data transfer. The hardware and software are classified SECRET.

5. The Improved Programmable Display Generator (iPDG) and color multifunction displays utilize ruggedized commercial liquid crystal display technology that is designed to withstand the harsh environment found in modern fighter cockpits. The display generator is the fifth generation graphics processor for the F-16. Through the use of state-of-the-art microprocessors and graphics engines, it provided orders of magnitude increases in throughput, memory, and graphics capabilities. The hardware and software are UNCLASSIFIED.

6. Multifunctional Information Distribution System (MIDS) is an advanced Link-16 command, control, communications, and intelligence (C3I) system incorporating high-capacity, jam-resistant, digital communication links for exchange of near real-time tactical information, including both data and voice, among air, ground, and sea elements. The MIDS terminal hardware, publications, performance specifications, operational capability, parameters, vulnerabilities to countermeasures, and software documentation are classified CONFIDENTIAL. The classified information to be provided consists of that which is necessary for the operation, maintenance, and repair (through intermediate level) of the data link terminal, installed systems, and related software.

7. Embedded GPS-INS (EGI) LN-260 is a sensor that combines GPS and inertial sensor inputs to provide accurate location information for navigation and targeting. The EGI LN-260 is UNCLASSIFIED. The GPS crypto variable keys needed for highest GPS accuracy are classified up to SECRET.

8. Joint Helmet Mounted Cueing System (JHMCS II) is a modified HGU-55/P helmet that incorporates a visor-projected Heads-Up Display (HUD) to cue weapons and aircraft sensors to air and ground targets. This system projects visual targeting and aircraft performance information on the back of the helmet's visor, enabling the pilot to monitor this information without interrupting his field of view through the cockpit canopy. This provides improvement for close combat targeting and engagement. Hardware is Unclassified; technical data and documents are classified up to SECRET.

9. The AN/APX-126 Advanced Identification Friend or Foe (AIFF) Combined Interrogator Transponder (CIT) is a system capable of transmitting and interrogating Mode V. It is UNCLASSIFIED unless/until Mode IV and/or Mode V operational evaluator parameters are loaded into the equipment. Elements of the IFF system classified up to SECRET include software object code, operating characteristics, parameters, and technical data. Mode IV and Mode V anti-jam performance specifications/data, software source code, algorithms, and

tempest plans or reports will not be offered, released, discussed, or demonstrated.

10. JMPS (Joint Mission Planning System) is a multi-platform PC based mission planning system. JMPS hardware is unclassified but the software is classified up to SECRET.

11. The AN/ALQ-211 Airborne Integrated Defensive Electronic Warfare Suite (AIDEWS) provides passive radar warning, wide spectrum RF jamming, and control and management of the entire EW system. It is an externally mounted Electronic Warfare (EW) pod. The commercially developed system software and hardware is UNCLASSIFIED. The system is classified SECRET when loaded with a US derived EW database.

12. DB-110 is a tactical airborne reconnaissance system. This capability permits reconnaissance missions to be conducted from very short range to long range by day or night. It is an under-the-weather, podded system that produces high resolution, dual-band electro-optical and infrared imagery. The DB-110 system is UNCLASSIFIED.

13. The LAU-129 Guided Missile Launcher is capable of launching a single AIM-9 (Sidewinder) family of missile or AIM-120 Advanced Medium Range Air-to-Air Missile (AMRAAM). The LAU-129 launcher provides mechanical and electrical interface between missile and aircraft. There are five versions produced strictly for foreign military sales. The only difference between these launchers is the material they are coated with or the color of the coating. This device is UNCLASSIFIED.

14. The SNIPER (AN/AAQ-33) targeting system is UNCLASSIFIED and contains technology representing the latest state-of-the-art in electro-optical clarity and haze, and low light targeting capability. Information on performance and inherent vulnerabilities is classified SECRET. Software (object code) is classified CONFIDENTIAL. Overall system classification is SECRET.

15. This sale will involve the release of sensitive and or classified cryptographic elements for secure communications radios, cryptographic appliques and keying equipment, and precision navigation equipment. The hardware is UNCLASSIFIED except where systems are loaded with cryptographic software, which is classified up to SECRET.

16. 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.

17. A determination has been made that Morocco can provide substantially the same degree of protection for the sensitive technology being released as the U.S. Government. This sale is necessary in furtherance of the U.S. foreign policy and national security objectives outlined in the Policy Justification.

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

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