



Billing Code: 5001-06

DEPARTMENT OF DEFENSE

Office of the Secretary

[Transmittal No. 16-60]

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: Pamela Young, (703) 697-9107,
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DSCA/DSA-RAN.

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 16-60 with attached Policy Justification and Sensitivity of Technology.

Dated: September 22, 2017.

Aaron Siegel,

Alternate OSD Federal Register Liaison Officer,

Department of Defense.



DEFENSE SECURITY COOPERATION AGENCY

201 12TH STREET SOUTH, STE 203
ARLINGTON, VA 22202-5408

SEP 08 2017

The Honorable Paul D. Ryan
Speaker of the House
U.S. House of Representatives
Washington, DC 20515

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. 16-60, concerning the Department of the Air Force's proposed Letter(s) of Offer and Acceptance to the Government of Bahrain for defense articles and services estimated to cost \$2.785 billion. After this letter is delivered to your office, we plan to issue a news release to notify the public of this proposed sale.

Sincerely,

A handwritten signature in black ink, appearing to read "C. Hooper".

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. 16-60

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: Government of Bahrain

(ii) Total Estimated Value:

Major Defense Equipment*	\$ 2.095 billion
Other	<u>\$ 0.690 billion</u>
TOTAL	\$ 2.785 billion

(iii) Description and Quantity or Quantities of Articles or Services under Consideration for Purchase:

Major Defense Equipment (MDE):

Nineteen (19) F-16V Aircraft

Nineteen (19) M61 Vulcan 20mm Gun Systems

Twenty-two (22) F-16V F-110-GE-129 Engines (includes 3 spares)

Twenty-two (22) APG-83 Active Electronically Scanned Array Radars
(includes 3 spares)

Twenty-two (22) Modular Mission Computers (includes 3 spares)

Twenty-two (22) Embedded Global Navigation Systems/LN260 EGI
(includes 3 spares)

Twenty-two (22) Improved Programmable Display Generators (iPDG)
(includes 3 spares)

Thirty-eight (38) LAU-129 Launchers

Non-MDE include:

Nineteen (19) AN/ALQ-211 AIDEWS Systems, thirty-eight (38) LAU-118A Launchers, forty-two (42) AN/ARC-238 SINCGARS Radio or equivalent, twenty-two (22) AN/APX-126 Advanced Identification Friend or Foe (AIFF) system or equivalent, twenty-two (22) cryptographic appliques, secure communication equipment, spares and repair parts, personnel training and training equipment, simulators, publications and technical documentation, U.S. Government and contractor technical support services, containers, missile support and test equipment, original equipment manufacturer integration and test, U.S. Government and contractor technical support and training services, site survey, design, construction studies/analysis/services, associated operations/maintenance/training/support facilities, cybersecurity, critical computer resources support, force protection and other related elements of logistics and program support.

(iv) Military Department: Air Force (X7-D-SAB)

(v) Prior Related Cases, if any:

FMS Case BA-D-SGA - \$330,927,474 – 21 Apr 87

FMS Case BA-D-SGG - \$234,879,152 – 20 Feb 98

(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 Annex Attached.

(viii) Date Report Delivered to Congress: September 8, 2017

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

POLICY JUSTIFICATION

Government of Bahrain – F-16V Aircraft with Support

The Government of Bahrain has requested a possible sale of nineteen (19) F-16V Aircraft; nineteen (19) M61 Vulcan 20mm Gun Systems; twenty-two (22) F-16V F-110-GE-129 Engines (includes 3 spares); twenty-two (22) APG-83 Active Electronically Scanned Array Radars (includes 3 spares); twenty-two (22) Modular Mission Computers (includes 3 spares); twenty-two (22) Embedded Global Navigation Systems/LN260 EGI (includes 3 spares); twenty-two (22) Improved Programmable Display Generators (iPDG) (includes 3 spares); and thirty-eight (38) LAU-129 Launchers. This sale also includes nineteen (19) AN/ALQ-211 AIDEWS Systems, thirty-eight (38) LAU-118A Launchers, forty-two (42) AN/ARC-238 SINCGARS Radio or equivalent, twenty-two (22) AN/APX-126 Advanced Identification Friend or Foe (AIFF) system or equivalent, twenty-two (22) cryptographic appliques, secure communication equipment, spares and repair parts, personnel training and training equipment, simulators, publications and technical documentation, U.S. Government and contractor technical support services, containers, missile support and test equipment, original equipment manufacturer integration and test, U.S. Government and contractor technical support and training services, site survey, design, construction studies/analysis/services, associated operations/maintenance/ training/support facilities, cybersecurity, critical computer resources support, force protection and other related elements of logistics and program support. The total estimated program cost is \$2.785 billion.

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, which has been and continues to be an important security partner in the region. Our mutual defense interests anchor our relationship and the Royal Bahraini Air Force (RBAF) plays a significant role in Bahrain's defense.

The proposed sale improves Bahrain's capability to meet current and future threats. Bahrain will use the capability as a deterrent to regional threats and to strengthen its homeland

defense. This purchase of F-16Vs will improve interoperability with United States and other regional allies. Bahrain employs 20 older F-16 Block 40s and will have no difficulty absorbing these aircraft into its armed forces.

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

The prime contractor will be Lockheed Martin. There are no know offset agreements proposed in connection with this potential sale.

Implementation of this proposed sale will require the assignment of at least ten (10) additional U.S. Government representatives and approximately seventy-five (75) contractor representatives to Bahrain.

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

Transmittal No. 16-60

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 involves the release of sensitive technology to Bahrain. The F-16C/D Block V weapon system is unclassified, except as noted below. The aircraft uses the F-16 airframe and features advanced avionics and systems. It contains the General Electric F-110-129 engine, AN/APG-83 radar, digital flight control system, internal and external electronic warfare (EW) equipment, Advanced Identification Friend or Foe (AIFF), operational flight trainer, and software computer programs.
2. Sensitive or classified (up to SECRET) elements of the proposed F-16V include hardware, accessories, components, and associated software: AN/APG-83 AESA Radars, Modular Mission Computers, Advanced Identification Friend or Foe (AIFF), cryptographic appliques, Embedded Global Positioning System/Inertial Navigation System, Modular Mission Computer (MMC), AN/ALQ-211 AIDEWS Systems, LAU-129 Launchers, Modular Mission Computers, and Improved Programmable Display Generators (iPDGs). Additional sensitive areas 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-

16V. 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. AN/ALQ-211 Airborne Integrated Defensive Electronic Warfare Suite (AIDEWS) System provides passive radar warning, wide spectrum RF jamming, and control and management of the entire EW system. Commercially developed system software and hardware is UNCLASSIFIED. The system is classified SECRET when loaded with a U.S. derived EW database, which will be provided.

5. The secure voice communications radio system is considered unclassified, but may employ cryptographic technology that is classified SECRET. Classified elements include operating characteristics, parameters, technical data, and keying material.

6. An Advanced Identification Friend or Foe (AIFF) is a system capable of transmitting and interrogating Mode V. It is UNCLASSIFIED unless Mode IV or Mode V operational evaluator parameters are loaded into the equipment that is classified SECRET. Classified elements of the AIFF system include software object code, operating characteristics, parameters, and technical data.

7. The 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. The LAU-129 Guided Missile Launcher is capable of launching a single AIM-9 (Sidewinder) family of missile or a single AIM-120 Advanced Medium Range Air-to-Air Missile (AMRAAM). The LAU-129 provides mechanical and electrical interface between missile and aircraft. The LAU-129 system is UNCLASSIFIED.

9. The Modular Mission Computer (MMC) is the central computer for the F-16. As such it serves as the hub for all aircraft subsystems, avionics, and weapons. The hardware and software (Operational Flight Program – OFP) are classified up to SECRET.

10. An Improved Programmable Display Generator (iPDG) will support the two color MFD's, allowing the pilot to set up to twelve display programs. One of them includes a color Horizontal Situation Display, which will be, provide the pilot with a God's eye view of the tactical situation. Inside is a 20MHz, 32-bit Intel 80960 Display Processor and a 256K battery-backed RAM system memory. The color graphics controller is based on the T.I. TMS34020 Raster Graphics Chipset. The iPDG also contains substantial growth capabilities including a high-speed Ethernet interface (10/100BaseT) and all the hardware necessary to support digital moving maps. The digital map function can be enabled by the addition of software. The hardware and software are UNCLASSIFIED.

11. M61A1 20mm Vulcan Cannon: The 20mm Vulcan cannon is a six barreled automatic cannon chambered in 20x120mm with a cyclic rate of fire from 2,500-6,000 shots per minute. This weapon is a hydraulically powered air cooled Gatlin gun used to damage/destroy aerial targets, suppress/incapacitate personnel targets, and damage or destroy moving and stationary light materiel targets. The M61A1 and its components are UNCLASSIFIED.

12. Software, hardware, and other data or information, which is classified or sensitive, is reviewed prior to release to protect system vulnerabilities, design data, and performance parameters. Some end-item hardware, software, and other data identified above are classified at the CONFIDENTIAL and SECRET level. Potential compromise of these systems is controlled through management of the basic software programs of highly sensitive systems and software-controlled weapon systems on a case-by-case basis.

13. If a technologically advanced adversary were to obtain knowledge of the specific hardware or software source code in this proposed sale, the information could be used to develop countermeasures which might reduce weapon system effectiveness or be used in the development of systems with similar or advance capabilities.

14. This sale is necessary in furtherance of 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.

15. A determination has been made that the recipient country 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.

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

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