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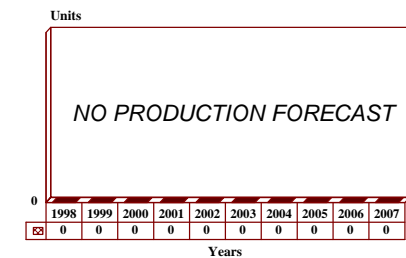
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Airborne Electro-Optical Special Operations Payload (AESOP) - Archived 4/99

Outlook

- All known production complete as of 1995
- Only known user is the US Army's 160th Special Operations Aviation Regiment (SOAR)
- Barring an increase in orders for AESOP, this report will be integrated with the parent system AAQ-16 in 1999

10 Year Unit Production Forecast
1998-2007



Orientation

Description. The Airborne Electro-Optical Special Operations Payload (AESOP), also designated the AN/AAQ-16D, is a derivative of the AN/AAQ-16 series of helicopter night vision systems. AESOP allows US Army Special Operations aircrews to detect, identify and pinpoint potential targets.

Sponsor

US Army
Aviation Systems Command
St. Louis, Missouri (MO)
USA

Contractors

Raytheon E-Systems, Inc.
(formerly Hughes)
Corporate Headquarters
PO Box 902PO Box 660248
Dallas, Texas (TX) 75226-0248
USA
Tel: +1 214 661 1000
Fax: +1 214 661 8508

Status. In production and operational service.

Total Produced. It is estimated that 19 AESOP systems have been produced through 1995, including two operational prototypes.

Application. AESOP is intended to provide Special Operations Forces aircraft with the ability to conduct area reconnaissance, surveillance, and target acquisition/engagement missions.

Price Range. AESOP is estimated to have cost US\$2.0 million (1994 dollars) per unit based on a US\$33 million contract (1994 dollars) for the delivery of 17 systems.

Technical Data

Design Features. The AESOP system combines the AN/AAQ-16 FLIR-based Night Vision System developed by Raytheon (formerly Hughes) with a new three field-of-view telescope and a laser target designator/rangefinder, providing an infrared navigation and targeting system in a turret that weighs less than 40 kg. AESOP is based on AAQ-16 Hi-Mag design, which provides both the high-magnification capability required for target identification and the wide field-of-view capability needed for safe night and low-visibility pilotage.

The AAQ-16 converts thermal energy into a video format to provide flight crews with high-resolution, television-quality infrared imagery in conditions of total darkness,

smoke, blowing dust and haze. The Hi-Mag variant is an upgrade of the original AAQ-16. It is enhanced with a telescope that features wide, medium and narrow field-of-view, an enhanced autotracker, and improved stabilization.

NOTE: As AESOP is a derivative of the AAQ-16, many of the technical specifications are likely to be similar — if not identical — to the AAQ-16. For further technical information, please refer to the report **AAQ-16** in this tab.

Variants/Upgrades

AESOP is itself a variant of the AAQ-16 series FLIR system (designated AAQ-16D).

Program Review

Background. The US Army Aviation and Troop Command issued a proposed procurement effort to develop, fabricate, install, test and deliver an AESOP prototype utilizing off-the-shelf or nearly mature components in June 1991. Installation kits for the MH-60K and the AH-6J helicopters were also required.

Hughes was selected to develop AESOP in April 1992. The company delivered two prototype AESOP systems to the Army for flight tests, which included live Hellfire missile firings, in late 1993.

In March 1994, Hughes was awarded a US\$6.3 million Phase I AESOP FLIR system production contract. This contract was followed almost immediately with an April contract award of US\$24.1 million for Phase II AESOP FLIR production and installation.

A total of 17 AESOP systems were delivered by late 1995. There are no known current plans to procure additional AESOP systems beyond the 17 on order.

Funding

No specific funding line item has been identified for AESOP, which is not surprising considering the equipment is for Special Operations Forces, whose funding tends to be either classified or hidden in other existing programs. However, given the nature of AESOP and the available facts, it is quite likely that AESOP development either has been or is being funded through PE#0603710A Night Vision Advanced Technology: Project DK86 Night Vision Airborne Systems.

NOTE: For further information, see the report **NIGHT VISION ADVANCED TECHNOLOGY AIRBORNE SYSTEMS** in Tab A of this binder.

Recent Contracts

No recent contracts have been identified since 1994.

Timetable

Jun	1991	Army issues AESOP proposal
Apr	1992	Hughes selected as prime developer
	1993	Prototypes tested
Mar	1994	Phase I contract for initial low rate of production
Apr	1994	Phase II contract for production and installation
Sep	1995	Final deliveries of 17 AESOP systems to US Army Special Operations forces

Worldwide Distribution

Primarily a **US Army** effort, AESOP is being installed on the US Army's SOF Sikorsky MH-60K and the McDonnell Douglas AH-6J Little Bird helicopters. There are no known international sales at this time.

Forecast Rationale

The AESOP (Airborne Electro-optical Special Operations Payload) is a derivative of the AAQ-16 series of night vision systems developed for helicopter platforms, and, occasionally, light fixed-wing aircraft. The base unit, the AAQ-16B, is a dual field-of-view long-wave FLIR system designed for night/limited visibility flying, navigation, target detection/identification and surveillance. AESOP, also designated the AAQ-16D, includes a three field-of-view telescope and, more importantly, a laser rangefinder/designator.

The only known user of AESOP is the US Army's 160th Special Operations Aviation Regiment (Airborne) (SOAR) based out of Ft. Campbell, KY and Hunter Field, GA. The inclusion of the laser rangefinder/designator has given 160th SOAR a much needed punch to its arsenal. As the unit typically flies deep into enemy territory, the inclusion

of a stand-off anti-armor capability was considered vital. AESOP provides this capability when either the MH-60Ks or AH-6 "Little Birds" are fitted with Hellfire missiles. While AESOP has been installed on some of the 160th SOAR helicopters, it can be easily removed and switched to another aircraft depending on mission requirements. On a percentage basis of known MH-60Ks and AH-6s currently in inventory, 14 -60Ks and 5 -6s would be outfitted with this system.

A total of 19 systems, including the two prototypes, were delivered in 1995. No further deliveries of this system are expected. It is believed that a modified version of the AAQ-16 (V-22) series, being developed for the V-22 Osprey, will either replace or be added to the current AESOP inventory.

Ten-Year Outlook

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