PE NUMBER: 0305205F
PE TITLE: Endurance Unmanned Aerial Vehicles

## Exhibit R-2, RDT&E Budget Item Justification

DATE: February 2004

BUDGET ACTIVITY: 07 Operational System Development

PE NUMBER AND TITLE: 0305205F Endurance Unmanned Aerial Vehicles

| | Cost ($ in Millions) | FY 2003 Actual | FY 2004 Estimate | FY 2005 Estimate | FY 2006 Estimate | FY 2007 Estimate | FY 2008 Estimate | FY 2009 Estimate | Cost to Complete | Total |
|---|---|---|---|---|---|---|---|---|---|---|
| | Total Program Element (PE) Cost | 352.679 | 401.413 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | TBD |
| 4755 | Predator | 20.468 | 40.595 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | TBD |
| 4799 | Global Hawk | 332.211 | 360.818 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | TBD |

Global Hawk and Predator will no longer share the same PE after FY04. In FY05 and out, all Global Hawk funding will be in PE 305220F, project 675144. Predator funding will move to PE 305219F, project 675143.

**(U) A. Mission Description and Budget Item Justification**

Endurance Unmanned Aerial Vehicles (UAVs) are a family of unmanned vehicles developed to provide all-weather, day/night, intelligence, surveillance and reconnaissance (ISR) in direct support of theater ISR collection requirements; and integrate with existing ISR architectures for mission planning, data processing, exploitation and dissemination.

The MQ-1 Predator UAV is a long-dwell, autonomous, unmanned reconnaissance system capable of operating over-the-horizon while providing real-time intelligence information to the Joint Task Force Commander. The air vehicle (A/V) carries electro-optical (EO), Infra-Red (IR) and synthetic aperture radar (SAR), and is capable of transmitting near real time imagery to the task force commander throughout the operational theater, All Predator aircraft are being produced with the Multi-spectral Targeting System (MTS) (a sensor turret that incorporates EO/IR, laser designator/range-finder, and IR illuminator), plus the capability to employ Hellfire laser-guided missiles.

The MQ-9 Predator B is a multi-role UAV, larger than the MQ-1 and will be capable of flying at higher speeds and altitudes. The aircraft will primarily function in a hunter-killer role, employing fused multi-spectral sensors to find, fix, and track ground targets and assess post-strike results. It is in continuing development and will field capability through evolving spirals. The first spiral is the flight characterization evaluation of the original off-the-shelf, proto-type aircraft (Spiral 0). Spiral 1 integrates, tests, and demonstrates the ability to deliver Hellfire laser-guided missiles. Spiral 2 increases the aircraft's gross take-off weight, integrate redundant avionics, a digital electronically controlled engine, sensor/stores management computer, MIL-STD-1760 advanced weapons data bus, and improved the human-machine interface.

The Global Hawk System consists of the RQ-4A Unmanned Aerial Vehicle (UAV), the AN/MSQ-131 Ground Segment (GS), and its support system. Global Hawk is a fully autonomous, high altitude, long endurance unmanned aircraft designed as an Intelligence, Surveillance and Reconnaissance (ISR) platform. The RQ-4A is an imagery intelligence-collecting UAV designed to carry 2,000 pounds of payload. Its payload includes an Integrated Sensor Suite (ISS) which contains Synthetic Aperture Radar (SAR) with Ground Moving Target Indicator (GMTI) capability, along with an Electro-Optical (EO)/Infrared (IR) camera.

The RQ-4B is a multi-intelligence collecting UAV with a payload capacity of 3,000 pounds. Its payload includes an improved ISS as well as spiraling in an incremental signals intelligence capability providing both high-band and low-band signals. The GS consists of the Mission Control Element (MCE) and the Launch and Recovery Element (LRE). Global Hawk will provide continuous, all-weather, day/night, wide area ISR and includes the interfaces with other theater systems required to support

| Exhibit R-2, RDT&E Budget Item Justification | DATE February 2004 |
|---|---|
| BUDGET ACTIVITY<br>07 Operational System Development | PE NUMBER AND TITLE<br>0305205F Endurance Unmanned Aerial Vehicles |

joint tactical warfighters at various levels of command. It is designed to provide up to 40,000 sq. nmi. of search radar imagery and EO or IR imagery per mission. Global Hawk is designed as a standoff imagery platform with the capability to operate in low-to-moderate air defense threat environments, and collect imagery while looking line of sight into high threat areas.

This program is budget activity 7, Operational Systems Development, because it involves Air Force R&D to field a highly capable operational system and provide essential operational capabilities.

**(U) B. Program Change Summary ($ in Millions)**

| | | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|---|
| (U) | Previous President's Budget | 346.713 | 398.631 | |
| (U) | Current PBR/President's Budget | 352.679 | 401.413 | |
| (U) | Total Adjustments | 5.966 | 2.782 | |
| (U) | Congressional Program Reductions | | -0.078 | |
| | Congressional Rescissions | -3.897 | -3.440 | |
| | Congressional Increases | 6.030 | 6.300 | |
| | Reprogrammings | 3.833 | | |
| | SBIR/STTR Transfer | | | |
| (U) | Significant Program Changes: | | | |

| Exhibit R-2a, RDT&E Project Justification | | | DATE: February 2004 |
|---|---|---|---|
| BUDGET ACTIVITY: 07 Operational System Development | PE NUMBER AND TITLE: 0305205F Endurance Unmanned Aerial Vehicles | PROJECT NUMBER AND TITLE: 4755 Predator | |

| Cost ($ in Millions) | FY 2003 Actual | FY 2004 Estimate | FY 2005 Estimate | FY 2006 Estimate | FY 2007 Estimate | FY 2008 Estimate | FY 2009 Estimate | Cost to Complete | Total |
|---|---|---|---|---|---|---|---|---|---|
| 4755 Predator | 20.468 | 40.595 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | TBD |
| Quantity of RDT&E Articles | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |

Starting in FY05, all Predator funds will be reported in PE0305219F.

**(U) A. Mission Description and Budget Item Justification**

The Predator program includes RQ/MQ-1 and MQ-9 unmanned aerial vehicles (UAVs), mobile and fixed Ground Control Stations (GCS), and associated communications and support equipment.

The RQ/MQ-1 Predator Unmanned Aerial Vehicle is a long dwell reconnaissance system capable of surveillance of critical targets at a range of 400 nm from the launch area. Predator is equipped with Electro-Optical/Infrared (EO/IR) and Synthetic Aperture Radar (SAR) sensors. The entire fleet is being fitted with Multi-spectral Targeting System (MTS) sensors capable of laser target designation and illumination. Additionally all aircraft will be modified to allow HELLFIRE laser-guided missile employment. Predator incorporates line-of-sight (LOS) and wide-band Ku-band SATCOM datalinks capable of providing near-real-time (NRT) transmission of high resolution imagery throughout the operational envelope. As Predator moves into its multi-mission role, the Air Force will continue experiments to expand roles, missions, sensors, and new weapons capabilities to leverage its battlefield persistence.

The MQ-9 is currently in flight test and will continue its development as a hunter-killer, Reconnaissance, Surveillance, and Target Acquisition (RSTA) asset. Two aircraft were procured as they were configured from the contractor (Spiral 0). The Air Force is currently defining the full operational configuration for Predator B and will spirally develop the system to meet our requirements. Spiral 1 increases takeoff gross weight, adds redundant avionics , advanced digital sensors, wing hard points for weapons, and delivers a capability to deliver HELLFIRE laser-guided missiles. Spiral 2 will integrate advanced weapons and update the human-machine interface. Subsequent spirals will develop follow-on sensors/payloads and update GCS and associated communications equipment.

Budget Activity Justification: This program is budget activity 7, Operational Systems Development, because it involves Air Force R&D to field a highly capable operational system and provide essential operational capabilities.

| **(U) B. Accomplishments/Planned Program ($ in Millions)** | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| (U) Accomplishments/Planned Program | 0.000 | 0.000 | |
| (U) Pre-planned Product Improvement (To include: Advanced capabilities, sensor integration, quick reaction capabilities, payload development/integration, weaponization and experimentation) | 8.362 | | |
| (U) MQ-9 Spiral development (aircraft improvements, development and integration of follow-on sensors, weapons and payloads, and associated communications equipment | 8.731 | | |
| (U) Predator View situational awareness/mission planning system | 2.000 | | |
| (U) System concept studies | 0.375 | 1.000 | |

| Exhibit R-2a, RDT&E Project Justification | | DATE February 2004 |
|---|---|---|
| BUDGET ACTIVITY<br>**07 Operational System Development** | PE NUMBER AND TITLE<br>**0305205F Endurance Unmanned Aerial Vehicles** | PROJECT NUMBER AND TITLE<br>**4755 Predator** |

| | | | | |
|---|---|---|---|---|
| (U) | Rectify identified air vehicle and ground station deficiencies to improve reliability and maintainability | 0.500 | | |
| (U) | Development and Operational Test | 0.450 | | |
| (U) | Field support | 0.050 | 1.000 | |
| (U) | MQ-1 Pre-planned Product Improvement (To include: Advanced capabilities, sensor integration, quick reaction capabilities, payload development/integration, weaponization and experimentation, continuing developmental testing for TCDL integration, and associated communications equipment. | | 3.000 | |
| (U) | MQ-9 spiral development (aircraft improvements, development and integration of follow-on sensors, weapons and payloads, and associated communications equipment) | | 27.578 | |
| (U) | Continue a reliability and maintainability program to ensure the continued viability of the MQ-1/MQ-9 air vehicle, ground control station, and associated communications equipment. | | 4.204 | |
| (U) | Developmental and Operational Test | | 3.813 | |
| (U) | Total Cost | 20.468 | 40.595 | 0.000 |

**(U) C. Other Program Funding Summary ($ in Millions)**

| | | FY 2003 Actual | FY 2004 Estimate | FY 2005 Estimate | FY 2006 Estimate | FY 2007 Estimate | FY 2008 Estimate | FY 2009 Estimate | Cost to Complete | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|
| (U) | AF RDT&E | | | | | | | | | |
| (U) | Other APPN | | | | | | | | | |
| (U) | Aircraft Procurement, AF (PE 35205F), Predator | 129.534 | 196.369 | | | | | | | |
| (U) | Aircraft Modification, AF (PE 35205F) | 10.145 | 14.178 | | | | | | | |
| (U) | Aircraft Initial Spares, AF (PE 35205F | 8.497 | 0.377 | | | | | | | |

**(U) D. Acquisition Strategy**

Both the MQ-1 Predator and MQ-9 Predator B will be acquired through the BIG SAFARI Program Office. MQ-1 Predator is in accelerated production with ISR sensors, laser designators, and weapon delivery capability. MQ-9 Predator B will be acquired as a 'Hunter Killer' system through a series of spirals to rapidly deliver combat capability. Each spiral will build on the delivered capability from the previous spirals and will include advanced sensor capabilities and evolving weapon payloads. Prime contractor for both aircraft is General Atomics Aeronautical Systems Inc.

# Exhibit R-3, RDT&E Project Cost Analysis

DATE: **February 2004**

BUDGET ACTIVITY: **07 Operational System Development**

PE NUMBER AND TITLE: **0305205F Endurance Unmanned Aerial Vehicles**

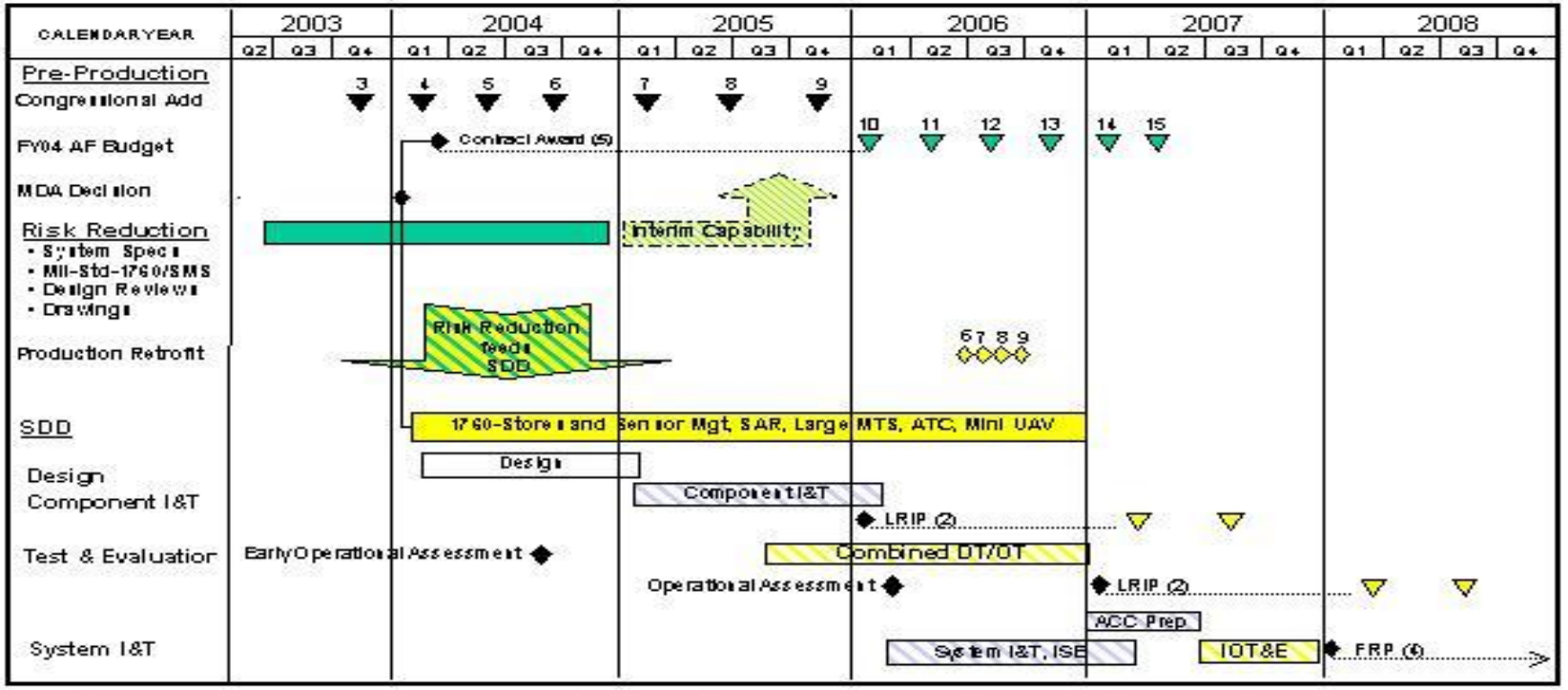
PROJECT NUMBER AND TITLE: **4755 Predator**

| (U) Cost Categories (Tailor to WBS, or System/Item Requirements) ($ in Millions) | Contract Method & Type | Performing Activity & Location | Total Prior to FY 2003 Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost to Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| (U) Product Development | | | | | | | | | | | | |
| General Atomics Aeronautical Systems Incorporated (GA-ASI) | SS/CPFF | GA-ASI Rancho Bernardo CA | 9.692 | 19.518 | Feb-03 | 37.145 | Feb-04 | | | Continuing | TBD | |
| Subtotal Product Development | | | 9.692 | 19.518 | | 37.145 | | 0.000 | | Continuing | TBD | 0.000 |
| Remarks: | | | | | | | | | | | | |
| (U) Support | | | | | | | | | | | | |
| ASC | SS/T&M | Wright-Patterson AFB OH | 0.000 | 0.500 | Feb-03 | 0.750 | Feb-04 | | | Continuing | TBD | |
| Subtotal Support | | | 0.000 | 0.500 | | 0.750 | | 0.000 | | Continuing | TBD | 0.000 |
| Remarks: | | | | | | | | | | | | |
| (U) Test & Evaluation | | | | | | | | | | | | |
| AFOTEC | MIPR | Kirtland AFB NM | 0.795 | 0.200 | Feb-03 | 1.000 | Feb-04 | | | Continuing | TBD | |
| Misc | Various | Various | 0.330 | 0.250 | Feb-03 | 1.700 | Feb-04 | | | Continuing | TBD | |
| Subtotal Test & Evaluation | | | 1.125 | 0.450 | | 2.700 | | 0.000 | | Continuing | TBD | 0.000 |
| Remarks: | | | | | | | | | | | | |
| (U) Total Cost | | | 10.817 | 20.468 | | 40.595 | | 0.000 | | Continuing | TBD | 0.000 |

| Exhibit R-4, RDT&E Schedule Profile | | DATE: February 2004 |
|---|---|---|
| BUDGET ACTIVITY: 07 Operational System Development | PE NUMBER AND TITLE: 0305205F Endurance Unmanned Aerial Vehicles | PROJECT NUMBER AND TITLE: 4755 Predator |

U.S. AIR FORCE

# MQ-9 Predator B Timeline

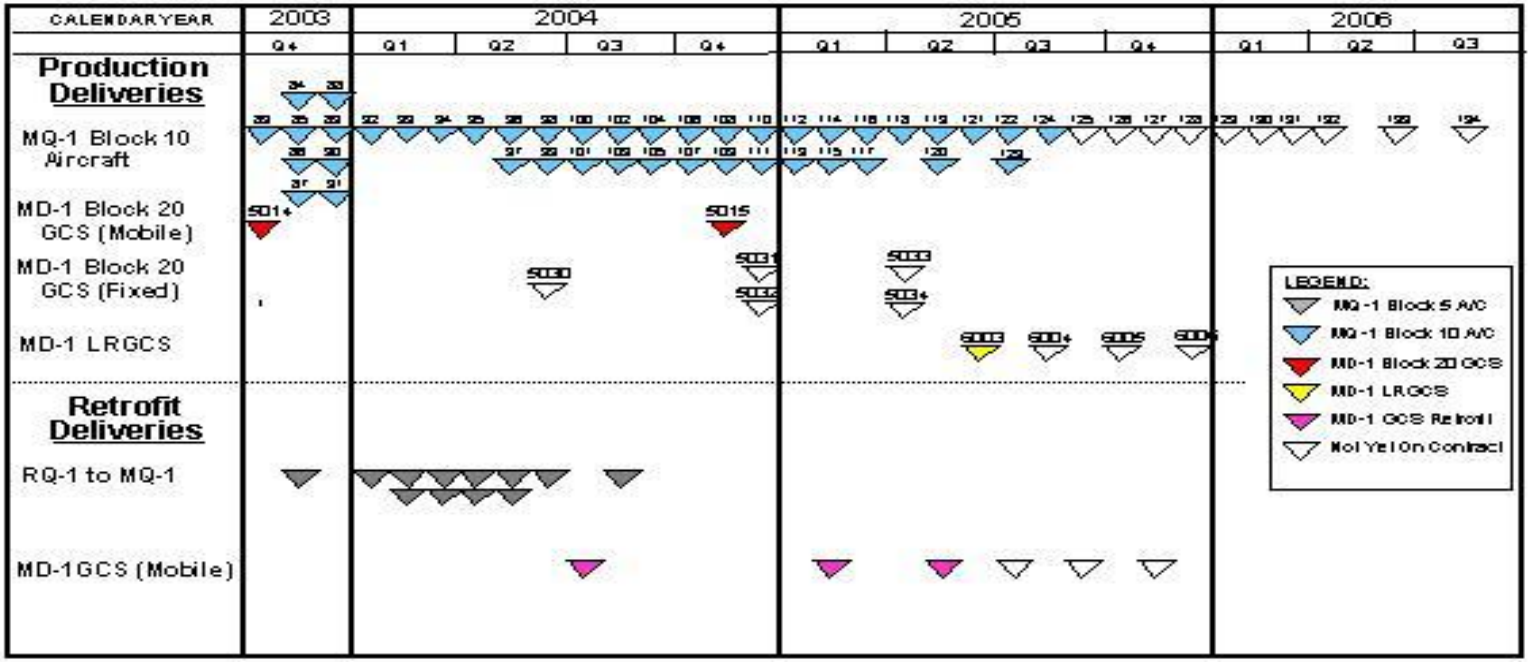



| FY | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 |
|---|---|---|---|---|---|---|---|
| MQ-9 Aircraft Buys (FY05 APOM) | 3 | 6 | 2 | 2 | 2 | 4 | 8 |

| Exhibit R-4, RDT&E Schedule Profile | | DATE: February 2004 |
|---|---|---|
| BUDGET ACTIVITY: 07 Operational System Development | PE NUMBER AND TITLE: 0305205F Endurance Unmanned Aerial Vehicles | PROJECT NUMBER AND TITLE: 4755 Predator |

U.S. AIR FORCE

# MQ-1 Predator Timeline




| FY | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 |
|---|---|---|---|---|---|---|---|
| MQ-1 Aircraft Buys (FY05 APOM) | 22 | 10 | 7 | 7 | 7 | 7 | 7 |

| Exhibit R-4a, RDT&E Schedule Detail | | DATE February 2004 |
|---|---|---|
| BUDGET ACTIVITY<br>**07 Operational System Development** | PE NUMBER AND TITLE<br>**0305205F Endurance Unmanned Aerial Vehicles** | PROJECT NUMBER AND TITLE<br>**4755 Predator** |

| **(U) Schedule Profile** | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| (U) Delivery of first production weaponized MQ-1 | 2Q | | |
| (U) MQ-9 Spiral 0 Complete | 2Q | | |
| (U) MQ-9 Spiral 1 Demonstration | | 4Q | |

| Exhibit R-2a, RDT&E Project Justification | | | DATE: February 2004 |
|---|---|---|---|
| BUDGET ACTIVITY: 07 Operational System Development | PE NUMBER AND TITLE: 0305205F Endurance Unmanned Aerial Vehicles | PROJECT NUMBER AND TITLE: 4799 Global Hawk | |

| Cost ($ in Millions) | FY 2003 Actual | FY 2004 Estimate | FY 2005 Estimate | FY 2006 Estimate | FY 2007 Estimate | FY 2008 Estimate | FY 2009 Estimate | Cost to Complete | Total |
|---|---|---|---|---|---|---|---|---|---|
| 4799 Global Hawk | 332.211 | 360.818 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | TBD |
| Quantity of RDT&E Articles | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |

In FY04 and prior years all Global Hawk funding was in PE 0305205F, project 674799. In FY05 and beyond all Global Hawk funding has been moved to PE 0305220F, project 675144.

**(U) A. Mission Description and Budget Item Justification**

The Global Hawk Program consists of the RQ-4A and RQ-4B Unmanned Aerial Vehicles (UAVs), the AN/MSQ-131 Ground Segment (GS), and the Support System. The Global Hawk System is designed to provide continuous, all-weather, day/night, wide area intelligence, surveillance and reconnaissance (ISR) and includes the interfaces with other theater systems required to support joint tactical warfighters at various levels of command. The aircraft is a remotely-piloted, high altitude, long endurance unmanned aircraft designed as an ISR platform. The Air Force has initiated Engineering and Manufacturing Development (EMD), using a spiral approach to incorporate improvements to the aircraft, ground station, communication system, and payloads. The Air Force will integrate Global Hawk into the Command, Control, Communications, Computers, Intelligence, Surveillance, and Reconnaissance (C4ISR) architecture, national and international airspace systems, and service combat environments. To support this, the Air Force will participate in demonstrations, exercises and conduct experiments with Global Hawk that will explore its use in other mission areas and activities.

This program is Budget Activity 7, Operational Systems Development because it involves Air Force R&D to field a highly capable operational system and provide essential operational capabilities.

| **(U) B. Accomplishments/Planned Program ($ in Millions)** | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| (U) ACCOMPLISHMENTS / PLANNED PROGRAM | 0.000 | 0.000 | |
| (U) Continue spiral development and related tasks, to include spiral development of aircraft, payloads, ground stations, and support segment to satisfy ORD requirements. | 224.135 | | |
| (U) Provide government test and evaluation support at Edwards AFB | 8.031 | 10.825 | |
| (U) Provide government program management, mission support, and other related costs. | 8.421 | | |
| (U) Demonstrations and exercises | 1.624 | 5.000 | |
| (U) Added to FY03 program per Congressional plus-up for Advanced Payload Development and Support ($84,000 *), Global Hawk Producibility Initiatives ($5,000), and Global Hawk Lithium Batteries ($1,000). | 90.000 | | |
| (U) Continue spiral development and related tasks, including aircraft ($93M), payloads ($30M), ground stations ($26M), support segment ($26M), program management, test and systems engineering ($55M) to satisfy ORD requirements. | | 229.794 | |
| (U) Provide government program management, mission support, and other related costs. | | 9.233 | |
| (U) MP-RTIP sensor adaptation | | 30.992 | |
| (U) Continue advanced ASIP payload modernization for Global Hawk and U-2 (Global Hawk ASIP platform integration | | 68.674 | |

| Exhibit R-2a, RDT&E Project Justification | | DATE February 2004 |
|---|---|---|
| BUDGET ACTIVITY<br>**07 Operational System Development** | PE NUMBER AND TITLE<br>**0305205F Endurance Unmanned Aerial Vehicles** | PROJECT NUMBER AND TITLE<br>**4799 Global Hawk** |

is in Spiral 3 and platform integration for U-2 is in PE 0305202F).

| | | | | |
|---|---|---|---|---|
| (U) | Congressional Plus Up for Advanced Imagery Architecture and Lithium Batteries | | 6.300 | |
| (U) | Total Cost | 332.211 | 360.818 | 0.000 |

*In FY03, $66.0M continues advanced Signals Intelligence (SIGINT) payload modernization for the Global Hawk and U-2 and $18.0M continues Imagery Intelligence (IMINT) payload modernization.

**(U) C. Other Program Funding Summary ($ in Millions)**

| | | FY 2003 Actual | FY 2004 Estimate | FY 2005 Estimate | FY 2006 Estimate | FY 2007 Estimate | FY 2008 Estimate | FY 2009 Estimate | Cost to Complete | Total Cost |
|---|---|---|---|---|---|---|---|---|---|---|
| (U) | AF RDT&E | 332.211 | 360.818 | | | | | | | TBD |
| (U) | Other APPN | | | | | | | | | |
| (U) | AF MILCON | 11.682 | 22.300 | | | | | | | TBD |
| (U) | AF O&M | 17.544 | 13.268 | | | | | | | TBD |
| (U) | AF MILPERS | 5.066 | 13.105 | | | | | | | TBD |
| (U) | Aircraft Procurement, APPN 10 AF (HAE UAV) | 181.073 | 251.035 | | | | | | | TBD |
| (U) | Aircraft Procurement APPN 11 AF (HAE UAV) | | | | | | | | | TBD |
| (U) | Other Procurement, 3080 (HAE UAV) | 0.639 | 0.192 | | | | | | | TBD |

All Other Program Funding is within PE 0305205F up through FY04. Funding is in PE 0305220F in FY05 and out.

**(U) D. Acquisition Strategy**

Global Hawk program uses Evolutionary Acquisition with an emphasis on Spiral Development strategy. This strategy provides the warfighter with a near term, combat capability with increased, time phased capability improvements as soon as technology and risk achieve satisfactory levels. The initial system capability evolved from a successful technology demonstration program and was refined in development Spiral 1. Subsequent development spirals incorporate additional capabilities into the system design. The Spiral Development strategy supports current operational requirements and can be updated as requirements evolve. The production program incorporates these incremental capability improvements into a series of production lots. These production lots deliver the increasingly capable Global Hawk system.

# Exhibit R-3, RDT&E Project Cost Analysis

DATE: February 2004

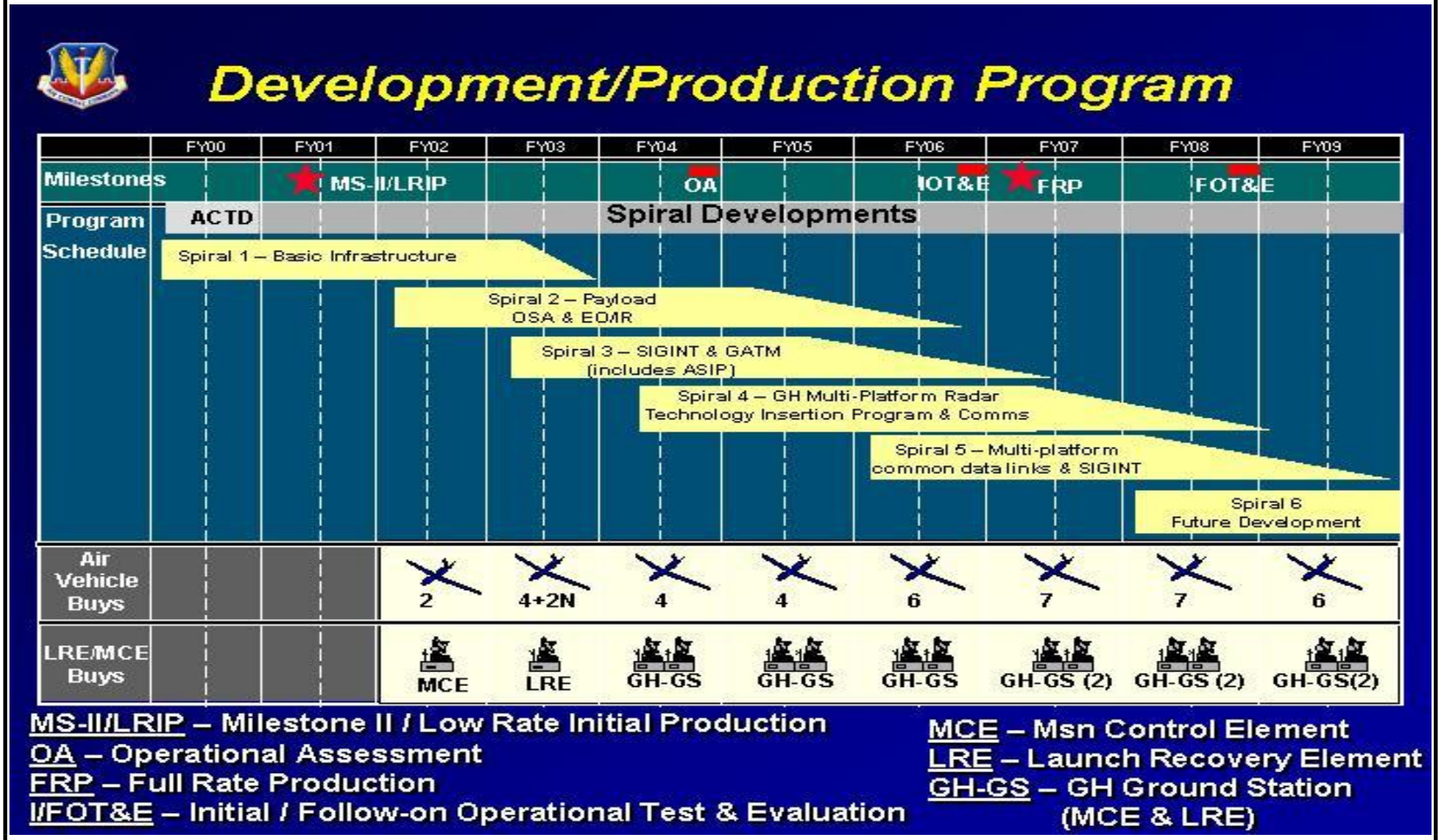
BUDGET ACTIVITY: 07 Operational System Development

PE NUMBER AND TITLE: 0305205F Endurance Unmanned Aerial Vehicles

PROJECT NUMBER AND TITLE: 4799 Global Hawk

| (U) Cost Categories (Tailor to WBS, or System/Item Requirements) ($ in Millions) | Contract Method & Type | Performing Activity & Location | Total Prior to FY 2003 Cost | FY 2003 Cost | FY 2003 Award Date | FY 2004 Cost | FY 2004 Award Date | FY 2005 Cost | FY 2005 Award Date | Cost to Complete | Total Cost | Target Value of Contract |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| (U) Product Development | | | | | | | | | | | | |
| NGUMS | SS CPAF/CPFF | Rancho Bernardo, CA | 262.992 | 219.912 | Nov-02 | 231.091 | Dec-03 | | | Continuing | TBD | |
| ASC Reconnaissance SPO | SS: CPAF | San Jose, CA | 28.000 | 60.700 | Feb-03 | 55.416 | Feb-04 | | | Continuing | TBD | |
| ASC Reconnaissance SPO | SS: CPAF | Falls Church, VA | | 0.000 | | 5.250 | Feb-04 | | | Continuing | TBD | |
| ASC Reconnaissance SPO | SS: CPAF | Denver, CO | | 0.000 | | 5.250 | Feb-04 | | | Continuing | TBD | |
| ESC | SS: CPAF | Melbourne, FL | 0.000 | 10.960 | Feb-03 | 30.992 | Mar-04 | | | Continuing | TBD | |
| ASC Reconnaissance SPO | SS:CPFF | Various | | 15.775 | Feb-03 | | | | | | 15.775 | |
| Subtotal Product Development | | | 290.992 | 307.347 | | 327.999 | | 0.000 | | Continuing | TBD | 0.000 |
| Remarks: | | | | | | | | | | | | |
| (U) Support | | | | | | | | | | | | |
| NGUMS | SS/CP | Rancho Bernardo, CA | 12.088 | 0.430 | Feb-03 | 1.306 | Jan-04 | | | Continuing | TBD | |
| SAIC/DDE | MIPR | Huntsville, AL | | 1.700 | Oct-02 | | | | | | 1.700 | |
| Other Govt Orgs | Various | | | 4.658 | Jan-03 | 4.109 | Nov-03 | | | Continuing | TBD | |
| | | | | | | | | | | | 0.000 | |
| Subtotal Support | | | 12.088 | 6.788 | | 5.415 | | 0.000 | | Continuing | TBD | 0.000 |
| Remarks: | | | | | | | | | | | | |
| (U) Test & Evaluation | | | | | | | | | | | | |
| AFFTC | PO | Edwards AFB | 12.982 | 8.991 | Dec-02 | 10.800 | Dec-03 | | | Continuing | TBD | |
| Demos and Exercise support | PO | various | 12.937 | 0.664 | Nov-02 | 5.025 | Nov-03 | | | Continuing | TBD | |
| Subtotal Test & Evaluation | | | 25.919 | 9.655 | | 15.825 | | 0.000 | | Continuing | TBD | 0.000 |
| Remarks: | | | | | | | | | | | | |
| (U) Management | | | | | | | | | | | | |
| MTC | PR | Dayton, OH | | 5.893 | Dec-02 | 2.325 | Dec-03 | | | Continuing | TBD | |
| HJ Ford | PR | Dayton, OH | | | Nov-02 | 2.500 | Nov-03 | | | Continuing | TBD | |
| INNOLOG | PR | Dayton, OH | | | | 2.500 | Nov-03 | | | Continuing | TBD | |
| Other Govt Orgs | PR | Various | | 2.528 | | 4.254 | Jan-04 | | | Continuing | TBD | |
| Subtotal Management | | | 0.000 | 8.421 | | 11.579 | | 0.000 | | Continuing | TBD | 0.000 |
| Remarks: | | | | | | | | | | | | |
| (U) Total Cost | | | 328.999 | 332.211 | | 360.818 | | 0.000 | | Continuing | TBD | 0.000 |

| Exhibit R-4, RDT&E Schedule Profile | | DATE February 2004 |
|---|---|---|
| BUDGET ACTIVITY<br>07 Operational System Development | PE NUMBER AND TITLE<br>0305205F Endurance Unmanned Aerial Vehicles | PROJECT NUMBER AND TITLE<br>4799 Global Hawk |



| Exhibit R-4a, RDT&E Schedule Detail | | DATE February 2004 |
|---|---|---|
| BUDGET ACTIVITY<br>**07 Operational System Development** | PE NUMBER AND TITLE<br>**0305205F Endurance Unmanned Aerial Vehicles** | PROJECT NUMBER AND TITLE<br>**4799 Global Hawk** |

| (U) **Schedule Profile** | FY 2003 | FY 2004 | FY 2005 |
|---|---|---|---|
| (U) Pre-EMD Development Complete | 1Q | | |
| (U) Delivery of aircraft #7 | 2Q | | |
| (U) Canadian Overflight | | 3Q | |
| (U) Global Hawk SOUTHCOM demo | | 3Q | |
| (U) Start EMD System Testing | 3Q | | |
| (U) Award EMD Spiral 3 contract | 2Q | | |
| (U) Global Hawk/German ELINT Flight Demonstration | | 1Q | |
| (U) Delivery of AF1 (First AF production aircraft) | 4Q | | |
| (U) EMD Spiral 1 Complete | | 2Q | |
| (U) Delivery of AF2 | | 1Q | |
| (U) Award EMD Spiral 4A contract | | 2Q | |
| (U) Operational Assessment | | 4Q | |