



## Selected Acquisition Report (SAR)

RCS: DD-A&T(Q&A)823-261



### **Advanced Extremely High Frequency Satellite (AEHF)**

As of FY 2015 President's Budget

Defense Acquisition Management  
Information Retrieval  
(DAMIR)

## Report Documentation Page

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## Common Acronyms and Abbreviations

Acq O&M - Acquisition-Related Operations and Maintenance  
APB - Acquisition Program Baseline  
APPN - Appropriation  
APUC - Average Procurement Unit Cost  
BA - Budget Authority/Budget Activity  
BY - Base Year  
DAMIR - Defense Acquisition Management Information Retrieval  
Dev Est - Development Estimate  
DoD - Department of Defense  
DSN - Defense Switched Network  
Econ - Economic  
Eng - Engineering  
Est - Estimating  
FMS - Foreign Military Sales  
FY - Fiscal Year  
IOC - Initial Operational Capability  
\$K - Thousands of Dollars  
LRIP - Low Rate Initial Production  
\$M - Millions of Dollars  
MILCON - Military Construction  
N/A - Not Applicable  
O&S - Operating and Support  
Oth - Other  
PAUC - Program Acquisition Unit Cost  
PB - President's Budget  
PE - Program Element  
Proc - Procurement  
Prod Est - Production Estimate  
QR - Quantity Related  
Qty - Quantity  
RDT&E - Research, Development, Test, and Evaluation  
SAR - Selected Acquisition Report  
Sch - Schedule  
Spt - Support  
TBD - To Be Determined  
TY - Then Year  
UCR - Unit Cost Reporting

## Program Information

### Program Name

Advanced Extremely High Frequency Satellite (AEHF)

### DoD Component

Air Force

### Joint Participants

Canada; The Netherlands; United Kingdom

## Responsible Office

### Responsible Office

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**DSN Phone** 633-9001  
**DSN Fax** --  
**Date Assigned** February 18, 2014

## References

### AEHF SV 1-4

#### SAR Baseline (Production Estimate)

Defense Acquisition Executive (DAE) Approved Acquisition Program Baseline (APB) dated March 3, 2005

#### Approved APB

Defense Acquisition Executive (DAE) Approved Acquisition Program Baseline (APB) dated March 31, 2014

### AEHF SV 5-6

#### SAR Baseline (Production Estimate)

Defense Acquisition Executive (DAE) Approved Acquisition Program Baseline (APB) dated October 23, 2012

#### Approved APB

Approved Acquisition Program Baseline (APB) dated October 23, 2012

## Mission and Description

Advanced Extremely High Frequency (AEHF) is a joint service satellite communications system that provides global, survivable, secure, protected, and jam-resistant communications for high priority military ground, sea, and air assets. The system consists of four satellites in Geosynchronous Earth Orbit that provides 10 times the capacity of the 1990s-era Milstar Block II satellites. The system provides continuous 24-hour Extremely High Frequency Extended Data Rate coverage between 65 degrees north and 65 degrees south latitude. AEHF allows the National Security Council and Combatant Commanders to control their tactical and strategic forces at all levels of conflict through general nuclear war and supports the attainment of information superiority.

The AEHF operational system is composed of three segments: space (the satellites), terminal (the users), and a mission control segment. The space segment consists of a cross-linked constellation of satellites to provide worldwide coverage. The terminal segment includes fixed and mobile ground terminals, ship and submarine terminals, and airborne terminals. The mission control segment controls satellites on orbit, monitors satellite health, and provides communication system planning and monitoring. This segment is also survivable, with both fixed and mobile control stations.

International Cooperative Program – The three countries that have signed Memoranda of Understanding are as follows: Canada, November 16, 1999, The Netherlands, November 8, 2002 and the United Kingdom September 9, 2003. These bilateral agreements allocate a portion of protected communication resources in exchange for financial participation in development. The Netherlands, Canada and the United Kingdom signed a Memoranda of Understanding in preparation for entering into a Foreign Military Sales case to purchase International Partnership variants of AEHF terminals.

## Executive Summary

The Advanced Extremely High Frequency (AEHF) program had noteworthy achievements in 2013. AEHF-3 was successfully launched and arrived on-orbit on January 6, 2014. Mission Control Segment (MCS) Increment 5 was operationally accepted by the user community on August 1, 2013. This accomplishment concludes the Operational Trial Period (OTP), allows for Increment 4 retirement, and was a precursor to Increment 7 OTP, which began on September 17, 2013 with the approval of Air Force Space Command (AFSPC).

AEHF-1/2 vehicles are fully integrated into the Milstar constellation and performing well with AEHF-1 operating from 68 deg West and AEHF-2 operating from 16.5 deg West.

AEHF-3 was successfully launched on September 18, 2013 from Cape Canaveral Air Force Station, Florida. AEHF-3 reached geosynchronous orbit at 120 degree West on January 6, 2014. On-Orbit Test began on January 10, 2014 and was successfully completed on February 23, 2014. AEHF-3 is fully integrated into the Milstar constellation and performing well, operating from 120 deg West. Satellite Control Authority of AEHF-3 was transferred from the MILSATCOM Directorate to 14th Air Force in March 2014.

For AEHF-4, the Lockheed Martin satellite bus is 68% complete and the Northrop Grumman payload is 67% complete. Payload and space vehicle frame integration is progressing well at the Northrop Grumman facility. The payload and U-frame integration is critical to keeping the satellite bus on schedule to start the space vehicle assembly, integration and test. AEHF-4 is scheduled to be available for launch in 2017.

AEHF 5-6 production acquisition progressed well. The Milestone Decision Authority (MDA) approved the AEHF 5-6 APB on October 23, 2012, which designated AEHF 5-6 as a subprogram. The contract for the Block Buy of the fifth and sixth AEHF satellites was definitized on October 31, 2013 with a contract value of \$2.232 billion, which includes \$227 million of FY 2011 advanced procurement, saving hundreds of millions of dollars over the Future Years Defense Program.

In 2013, the Program Office overcame the challenges of developing and fielding the AEHF Mission Control System software due to disconnects between the delivered system and operational suitability. A large number of deficiencies caused delays to Increment 5 software Operational Acceptance (OA) and contributed to a six month schedule slip to the IOC milestone (from December 2014 to June 2015).

The Air Force submitted a Program Deviation Report in April 2013 which resulted in an APB schedule breach. Since declaring the schedule breach, the program brought in an independent team to identify opportunities for more rigorous development processes, worked with the operational community to determine discrepancy fixes and adjudication required for IOC, and added contractor operations support to provide increased technical presence in the development/fielding of the system. The updated APB with an IOC Objective of June 2015 and Threshold of December 2015 was signed by the MDA on March 31, 2014.

Increment 5 of AEHF's MCS completed Operational Utility Evaluation dedicated testing in April 2013 and Increment 5 OA was achieved on August 1, 2013. Increment 7.4 software completed testing on November 19, 2013 and is currently operating the Milstar and AEHF constellation. Increment 7.5, the version required for IOC, was delivered for test on December 19, 2013 with no major issues to date. The program office is on track to reach IOC in June 2015.

## Threshold Breaches

### AEHF SV 1-4

| APB Breaches |  |  |
|--------------|--|--|
|--------------|--|--|

|             |             |                          |
|-------------|-------------|--------------------------|
| Schedule    |             | <input type="checkbox"/> |
| Performance |             | <input type="checkbox"/> |
| Cost        | RDT&E       | <input type="checkbox"/> |
|             | Procurement | <input type="checkbox"/> |
|             | MILCON      | <input type="checkbox"/> |
|             | Acq O&M     | <input type="checkbox"/> |
| O&S Cost    |             | <input type="checkbox"/> |
| Unit Cost   | PAUC        | <input type="checkbox"/> |
|             | APUC        | <input type="checkbox"/> |

| Nunn-McCurdy Breaches |  |  |
|-----------------------|--|--|
|-----------------------|--|--|

|                              |      |      |
|------------------------------|------|------|
| <b>Current UCR Baseline</b>  |      |      |
|                              | PAUC | None |
|                              | APUC | None |
| <b>Original UCR Baseline</b> |      |      |
|                              | PAUC | None |
|                              | APUC | None |

### AEHF SV 5-6

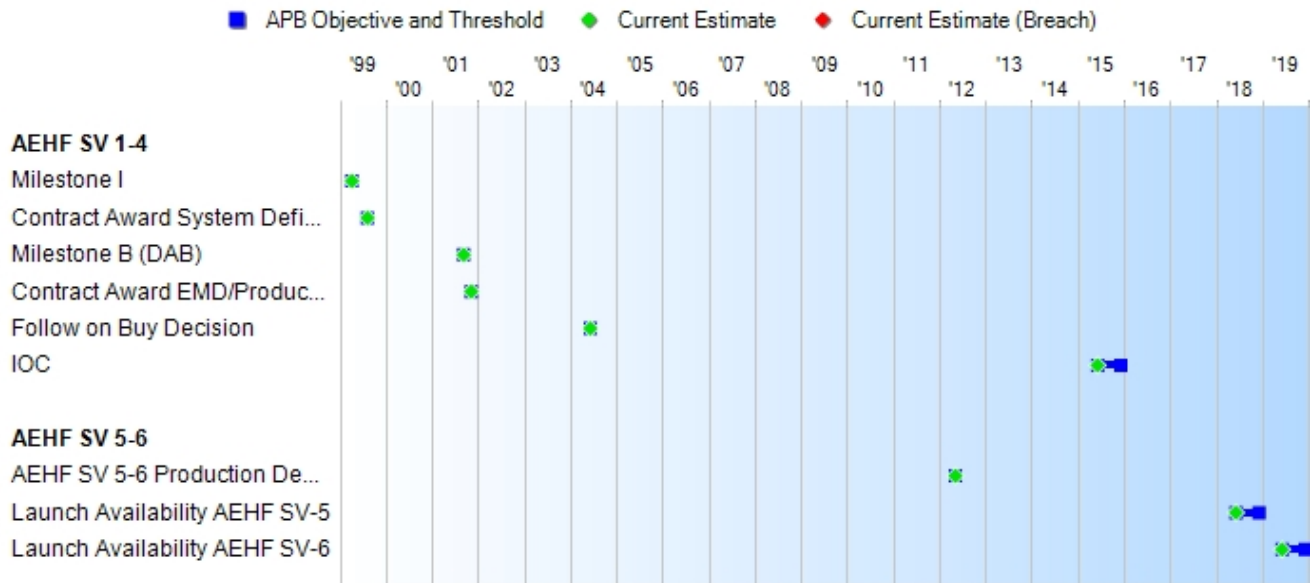
| APB Breaches |  |  |
|--------------|--|--|
|--------------|--|--|

|             |             |                          |
|-------------|-------------|--------------------------|
| Schedule    |             | <input type="checkbox"/> |
| Performance |             | <input type="checkbox"/> |
| Cost        | RDT&E       | <input type="checkbox"/> |
|             | Procurement | <input type="checkbox"/> |
|             | MILCON      | <input type="checkbox"/> |
|             | Acq O&M     | <input type="checkbox"/> |
| O&S Cost    |             | <input type="checkbox"/> |
| Unit Cost   | PAUC        | <input type="checkbox"/> |
|             | APUC        | <input type="checkbox"/> |

| Nunn-McCurdy Breaches |  |  |
|-----------------------|--|--|
|-----------------------|--|--|

|                              |      |      |
|------------------------------|------|------|
| <b>Current UCR Baseline</b>  |      |      |
|                              | PAUC | None |
|                              | APUC | None |
| <b>Original UCR Baseline</b> |      |      |
|                              | PAUC | None |
|                              | APUC | None |

### Schedule



| AEHF SV 1-4                      |                       |  |          |                  |
|----------------------------------|-----------------------|--|----------|------------------|
| Milestones                       | SAR Baseline Prod Est | Current APB Production Objective/Threshold |          | Current Estimate |
| Milestone I                      | APR 1999              | APR 1999                                   | APR 1999 | APR 1999         |
| Contract Award System Definition | AUG 1999              | AUG 1999                                   | AUG 1999 | AUG 1999         |
| Milestone B (DAB)                | JUN 2001              | SEP 2001                                   | SEP 2001 | SEP 2001         |
| Contract Award EMD/Production    | JUN 2001              | NOV 2001                                   | NOV 2001 | NOV 2001         |
| Follow on Buy Decision           | JUN 2004              | JUN 2004                                   | JUN 2004 | JUN 2004         |
| IOC                              | JUN 2010              | JUN 2015                                   | DEC 2015 | JUN 2015         |

#### Change Explanations

None

#### Memo

The IOC milestone is defined in the AEHF Operational Requirements Document dated October 2000 and addresses the capability at the time satellite two is operational. It also includes missions supported, networks active and two separate satellites operating in the AEHF mode. The operational control segment consists of one fixed and one transportable control element and an interim fully operational communications management system.

The AEHF Increment 7.5 software is required to enter Multi-service Operational Test and Evaluation and must meet the AEHF SV 1-4 conditions for a successful IOC date of June 2015.

**Acronyms and Abbreviations**

DAB - Defense Acquisition Board  
 EMD - Engineering and Manufacturing Development  
 SV - Space Vehicle

**AEHF SV 5-6**

| Milestones                      | SAR Baseline<br>Prod Est | Current APB<br>Production<br>Objective/Threshold |          | Current<br>Estimate |
|---------------------------------|--------------------------|--|----------|---------------------|
| AEHF SV 5-6 Production Decision | MAY 2012                 | MAY 2012   | MAY 2012 | MAY 2012            |
| Launch Availability AEHF SV-5   | JUN 2018                 | JUN 2018   | DEC 2018 | JUN 2018            |
| Launch Availability AEHF SV-6   | JUN 2019                 | JUN 2019   | DEC 2019 | JUN 2019            |

**Change Explanations**

None

**Memo**

Launch availability is defined as all factory work completed and satellite readied for shipment to the launch base.

**Acronyms and Abbreviations**

SV - Space Vehicle

## Performance

| AEHF SV 1-4        |   |   |   |                          |   |
|--------------------|---|---|---|--------------------------|---|
| Characteristics    | SAR Baseline Prod Est   | Current APB Production Objective/Threshold  |   | Demonstrated Performance | Current Estimate  |
| Capacity           | 1.2 Gbps<br>CMTW, 600<br>Mbps<br>Strategic  | 1.2 Gbps<br>CMTW, 600<br>Mbps<br>Strategic  | Support at<br>least 500<br>Mbps for<br>CMTW<br>Scenario<br>and at least<br>350 Mbps<br>for Strategic<br>Scenario  | TBD                      | 1.2 Gbps<br>CMTW, 600<br>Mbps<br>Strategic  |
| Nuclear Protection | Provide<br>assured<br>communicat-<br>ions to<br>survivable<br>nuclear<br>forces<br>exposed to<br>the<br>environment<br>specified in<br>NCGS-89-<br>06, and for<br>those critical<br>networks<br>that support<br>the following<br>critical<br>functions:<br>situation<br>monitoring,<br>decision<br>making,<br>force direc-<br>tion, force<br>manage-<br>ment, and<br>planning | Provide<br>assured<br>communicat-<br>ions to<br>survivable<br>nuclear<br>forces<br>exposed to<br>the<br>environment<br>specified in<br>NCGS-89-<br>06, and for<br>those critical<br>networks<br>that support<br>the following<br>critical<br>functions:<br>situation<br>monitoring,<br>decision<br>making,<br>force direc-<br>tion, force<br>manage-<br>ment, and<br>planning | Provide<br>assured<br>communicat-<br>ions to<br>survivable<br>nuclear<br>forces<br>exposed to<br>the<br>environment<br>specified in<br>NCGS-89-<br>06, and for<br>those critical<br>networks<br>that support<br>the following<br>critical<br>functions:<br>situation<br>monitoring,<br>decision<br>making,<br>force direc-<br>tion, force<br>manage-<br>ment, and<br>planning | TBD                      | Provide<br>assured<br>communicat-<br>ions to<br>survivable<br>nuclear<br>forces<br>exposed to<br>the<br>environment<br>specified in<br>NCGS-89-<br>06, and for<br>those critical<br>networks<br>that support<br>the following<br>critical<br>functions:<br>situation<br>monitoring,<br>decision<br>making,<br>force direc-<br>tion, force<br>manage-<br>ment, and<br>planning |
| Access and Control | Provide<br>users ability<br>to plan,<br>control, &<br>reconfigure<br>their  | Provide<br>users ability<br>to plan,<br>control, &<br>reconfigure<br>their  | Provide<br>users ability<br>to plan,<br>control, &<br>reconfigure<br>their  | TBD                      | Provide<br>users ability<br>to plan,<br>control, &<br>reconfigure<br>their  |

|                             |  |  |  |     |  |
|-----------------------------|--|--|--|-----|--|
|                             | apportioned resources; critical functions such as situation monitoring, decision making, force direction, force management, & planning shall not be disrupted by communications configuration changes to noncritical functions | apportioned resources; critical functions such as situation monitoring, decision making, force direction, force management, & planning shall not be disrupted by communications configuration changes to noncritical functions | apportioned resources; critical functions such as situation monitoring, decision making, force direction, force management, & planning shall not be disrupted by communications configuration changes to noncritical functions |     | apportioned resources; critical functions such as situation monitoring, decision making, force direction, force management, & planning shall not be disrupted by communications configuration changes to noncritical functions |
| Interoperability            |  |  |  |     |  |
| AEHF Interoperability       | Support joint interoperable warfighter communications among all military branches EHF terminals  | Support joint interoperable warfighter communications among all military branches EHF terminals  | Support joint interoperable warfighter communications among all military branches EHF terminals  | TBD | Support joint interoperable warfighter communications among all military branches EHF terminals  |
| Milstar Backward Compatible | Operate with the Milstar system, at all LDR and MDR terminal supported data rates, throughout the Milstar transition to the AEHF system  | Operate with the Milstar system, at all LDR and MDR terminal supported data rates, throughout the Milstar transition to the AEHF system  | Operate with the Milstar system, at all LDR and MDR terminal supported data rates, throughout the Milstar transition to the AEHF system  | TBD | Operate with the Milstar system, at all LDR and MDR terminal supported data rates, throughout the Milstar transition to the AEHF system  |

Classified Performance information is provided in the classified annex to this submission.

**Requirements Source**

Operational Requirements Document (ORD), dated October 1, 2000

**Change Explanations**

None

**Acronyms and Abbreviations**

CMTW - Combined Major Theater Warfare  
EHF - Extremely High Frequency  
Gbps - Giga bytes per second  
LDR - Low Data Rate  
Mbps - Mega bytes per second  
MDR - Medium Data Rate  
Milstar - Military Strategic and Tactical Relay  
NCGS - Nuclear Criteria Group Secretariat

| <b>AEHF SV 5-6</b>     |   |   |   |                                 |   |
|------------------------|---|---|---|---------------------------------|---|
| <b>Characteristics</b> | <b>SAR Baseline Prod Est</b>  | <b>Current APB Production Objective/Threshold</b>   |   | <b>Demonstrated Performance</b> | <b>Current Estimate</b>   |
| Capacity               | 1.2 Gbps<br>CMTW, 600<br>Mbps<br>Strategic  | 1.2 Gbps<br>CMTW, 600<br>Mbps<br>Strategic  | Support at<br>least 500<br>Mbps for<br>CMTW<br>Scenario<br>and at least<br>350 Mbps<br>for Strategic<br>Scenario  | TBD                             | 1.2 Gbps<br>CMTW, 600<br>Mbps<br>Strategic  |
| Nuclear Protection     | Provide<br>assured<br>communicat-<br>ions to<br>survivable<br>nuclear<br>forces<br>exposed to<br>the<br>environment<br>specified in<br>NCGS-89-<br>06, and for<br>those critical<br>networks<br>that support<br>the following<br>critical<br>functions:<br>situation<br>monitoring,<br>decision<br>making,<br>force direc-<br>tion, force<br>manage-<br>ment, and<br>planning | Provide<br>assured<br>communicat-<br>ions to<br>survivable<br>nuclear<br>forces<br>exposed to<br>the<br>environment<br>specified in<br>NCGS-89-<br>06, and for<br>those critical<br>networks<br>that support<br>the following<br>critical<br>functions:<br>situation<br>monitoring,<br>decision<br>making,<br>force direc-<br>tion, force<br>manage-<br>ment, and<br>planning | Provide<br>assured<br>communicat-<br>ions to<br>survivable<br>nuclear<br>forces<br>exposed to<br>the<br>environment<br>specified in<br>NCGS-89-<br>06, and for<br>those critical<br>networks<br>that support<br>the following<br>critical<br>functions:<br>situation<br>monitoring,<br>decision<br>making,<br>force direc-<br>tion, force<br>manage-<br>ment, and<br>planning | TBD                             | Provide<br>assured<br>communicat-<br>ions to<br>survivable<br>nuclear<br>forces<br>exposed to<br>the<br>environment<br>specified in<br>NCGS-89-<br>06, and for<br>those critical<br>networks<br>that support<br>the following<br>critical<br>functions:<br>situation<br>monitoring,<br>decision<br>making,<br>force direc-<br>tion, force<br>manage-<br>ment, and<br>planning |
| Access and Control     | Provide<br>users ability<br>to plan,<br>control, &<br>reconfigure<br>their<br>apportioned<br>resources;<br>critical   | Provide<br>users ability<br>to plan,<br>control, &<br>reconfigure<br>their<br>apportioned<br>resources;<br>critical   | Provide<br>users ability<br>to plan,<br>control, &<br>reconfigure<br>their<br>apportioned<br>resources;<br>critical   | TBD                             | Provide<br>users ability<br>to plan,<br>control, &<br>reconfigure<br>their<br>apportioned<br>resources;<br>critical   |

|                             |  |  |  |     |  |
|-----------------------------|--|--|--|-----|--|
|                             | functions such as situation monitoring, decision making, force direction, force management, & planning shall not be disrupted by communications configuration changes to noncritical functions | functions such as situation monitoring, decision making, force direction, force management, & planning shall not be disrupted by communications configuration changes to noncritical functions | functions such as situation monitoring, decision making, force direction, force management, & planning shall not be disrupted by communications configuration changes to noncritical functions |     | functions such as situation monitoring, decision making, force direction, force management, & planning shall not be disrupted by communications configuration changes to noncritical functions |
| AEHF Interoperability       | Support joint interoperable warfighter communications among all military branches EHF terminals  | Support joint interoperable warfighter communications among all military branches EHF terminals  | Support joint interoperable warfighter communications among all military branches EHF terminals  | TBD | Support joint interoperable warfighter communications among all military branches EHF terminals  |
| Milstar Backward Compatible | Operate with the Milstar system, at all LDR and MDR terminal supported data rates, throughout the Milstar transition to the AEHF system  | Operate with the Milstar system, at all LDR and MDR terminal supported data rates, throughout the Milstar transition to the AEHF system  | Operate with the Milstar system, at all LDR and MDR terminal supported data rates, throughout the Milstar transition to the AEHF system  | TBD | Operate with the Milstar system, at all LDR and MDR terminal supported data rates, throughout the Milstar transition to the AEHF system  |

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#### Requirements Source

Operational Requirements Document (ORD), dated October 1, 2000

**Change Explanations**

None

**Acronyms and Abbreviations**

CMTW - Combined Major Theater Warfare  
EHF - Extremely High Frequency  
Gbps - Giga bytes per second  
LDR - Low Data Rate  
Mbps - Mega bytes per second  
MDR - Medium Data Rate  
Milstar - Military Strategic and tactical Relay  
NCGS - Nuclear Criteria Group Secretariat

## Track to Budget

### AEHF SV 1-4

#### General Memo

AEHF Space Vehicles (SV) 1-4 reflects the following:

Procurement is associated with AEHF SV 3 and 4

RDT&E is associated with AEHF SV 1 and 2, Mission Control Segment, and Interim Contractor Support.

#### RDT&E

| Appn           | BA | PE       | Project | Name   |        |
|----------------|----|----------|---------|--|--------|
| Air Force 3600 | 04 | 0603430F |         |  |        |
|                |    |          | 644050  | AEHF Military Satellite Communications (MILSATCOM) (Space) | (Sunk) |
| Air Force 3600 | 05 | 0605431F |         |  |        |
|                |    |          | 657103  | AEHF MILSATCOM (Space)                                     |        |

#### Procurement

| Appn           | BA | PE       | Line Item | Name         |
|----------------|----|----------|-----------|--------------|
| Air Force 3020 | 05 | 0303604F |           |              |
|                |    |          | ADV555    | Advanced EHF |

### AEHF SV 5-6

#### RDT&E

| Appn           | BA | PE       | Project       | Name                         |                 |
|----------------|----|----------|---------------|------------------------------|-----------------|
| Air Force 3600 | 04 | 0603430F |               |                              |                 |
|                |    |          | 644050        | AEHF MILSATCOM (Space)       | (Sunk)          |
|                |    |          | <b>Notes:</b> | FY 2011 only                 |                 |
|                |    |          | 64A030        | Evolved AEHF MILSATCOM (EAM) | (Shared) (Sunk) |
|                |    |          | <b>Notes:</b> | FY 2013 only                 |                 |
| Air Force 3600 | 05 | 0605431F |               |                              |                 |
|                |    |          |               |                              |                 |

657104 Evolved AEHF MILSATCOM (Shared)  
 (EAM)  
**Notes:** FY 2014 - 2015 only

Projects 64A030 and 657104 also fund the Military Satellite Communications (MILSATCOM) Space Modernization Initiative. AEHF RDT&E funding is for the AEHF SV 6 KI-54D cryptographic device. Project 644050 is FY 2011 only. Project 64A030 is FY 2013 only. Project 657104 is for FY 2014 - 2015 only.

**Procurement**

| Appn           | BA           | PE       |
|----------------|--------------|----------|
| Air Force 3020 | 05           | 0303604F |
| Line Item      | Name         |          |
| ADV555         | Advanced EHF |          |

## Cost and Funding

### Cost Summary - Total Program

#### Total Acquisition Cost and Quantity - Total Program

| Appropriation  | BY2002 \$M               |  |     | BY2002 \$M          | TY \$M                   |  |                     |
|----------------|--------------------------|--|-----|---------------------|--------------------------|--|---------------------|
|                | SAR Baseline<br>Prod Est | Current APB<br>Production<br>Objective/Threshold |     | Current<br>Estimate | SAR Baseline<br>Prod Est | Current APB<br>Production<br>Objective | Current<br>Estimate |
| RDT&E          | 5282.8                   | 6489.3   | --  | 6747.6              | 5542.2                   | 7117.8                                 | 7465.9              |
| Procurement    | 3233.0                   | 5311.1   | --  | 4576.8              | 4031.7                   | 6565.5                                 | 5695.2              |
| Flyaway        | --                       | --   | --  | 4576.8              | --                       | --                                     | 5695.2              |
| Recurring      | --                       | --   | --  | 4576.8              | --                       | --                                     | 5695.2              |
| Non Recurring  | --                       | --   | --  | 0.0                 | --                       | --                                     | 0.0                 |
| Support        | --                       | --   | --  | 0.0                 | --                       | --                                     | 0.0                 |
| Other Support  | --                       | --   | --  | 0.0                 | --                       | --                                     | 0.0                 |
| Initial Spares | --                       | --   | --  | 0.0                 | --                       | --                                     | 0.0                 |
| MILCON         | 0.0                      | 0.0  | --  | 0.0                 | 0.0                      | 0.0                                    | 0.0                 |
| Acq O&M        | 0.0                      | 0.0  | --  | 0.0                 | 0.0                      | 0.0                                    | 0.0                 |
| Total          | 8515.8                   | 11800.4  | N/A | 11324.4             | 9573.9                   | 13683.3                                | 13161.1             |

## Cost and Funding

### Cost Summary - AEHF SV 1-4

#### Total Acquisition Cost and Quantity - AEHF SV 1-4

| Appropriation  | BY2002 \$M               |  |                     | BY2002 \$M          | TY \$M                   |  |                     |
|----------------|--------------------------|--|---------------------|---------------------|--------------------------|--|---------------------|
|                | SAR Baseline<br>Prod Est | Current APB<br>Production<br>Objective/Threshold | Current<br>Estimate | Current<br>Estimate | SAR Baseline<br>Prod Est | Current APB<br>Production<br>Objective | Current<br>Estimate |
| RDT&E          | 5223.7                   | 6430.2   | 7073.2              | 6693.1              | 5468.4                   | 7044.0                                 | 7397.1              |
| Procurement    | 577.0                    | 2655.1   | 2920.6              | 2500.9              | 617.3                    | 3151.1                                 | 2974.3              |
| Flyaway        | --                       | --   | --                  | 2500.9              | --                       | --                                     | 2974.3              |
| Recurring      | --                       | --   | --                  | 2500.9              | --                       | --                                     | 2974.3              |
| Non Recurring  | --                       | --   | --                  | 0.0                 | --                       | --                                     | 0.0                 |
| Support        | --                       | --   | --                  | 0.0                 | --                       | --                                     | 0.0                 |
| Other Support  | --                       | --   | --                  | 0.0                 | --                       | --                                     | 0.0                 |
| Initial Spares | --                       | --   | --                  | 0.0                 | --                       | --                                     | 0.0                 |
| MILCON         | 0.0                      | 0.0  | --                  | 0.0                 | 0.0                      | 0.0                                    | 0.0                 |
| Acq O&M        | 0.0                      | 0.0  | --                  | 0.0                 | 0.0                      | 0.0                                    | 0.0                 |
| Total          | 5800.7                   | 9085.3   | N/A                 | 9194.0              | 6085.7                   | 10195.1                                | 10371.4             |

#### Confidence Level for Current APB Cost 50% -

The Independent Cost Estimate (ICE) that supports the AEHF SV 1-4, like all life-cycle cost estimates previously performed by Cost Assessment and Program Evaluation (CAPE), is built upon a product-oriented work breakdown structure, which is based on historical actual cost information to the maximum extent possible, and, most importantly, based on conservative assumptions that are consistent with actual demonstrated contractor and Government performance for a series of acquisition programs in which the Department has been successful.

It is difficult to calculate mathematically the precise confidence levels associated with life-cycle cost estimates prepared for Major Defense Acquisition Programs. Based on the rigor in methods used in building estimates, the strong adherence to the collection and use of historical cost information, and the review of applied assumptions, we project that it is about equally likely that the estimate will prove too low or too high for execution of the program described.

| <b>Quantity</b> | <b>SAR Baseline<br/>Prod Est</b> | <b>Current APB<br/>Production</b> | <b>Current Estimate</b> |
|-----------------|----------------------------------|-----------------------------------|-------------------------|
| RDT&E           | 2                                | 2                                 | 2                       |
| Procurement     | 1                                | 2                                 | 2                       |
| Total           | 3                                | 4                                 | 4                       |

**Cost Summary - AEHF SV 5-6****Total Acquisition Cost and Quantity - AEHF SV 5-6**

| Appropriation  | BY2002 \$M            |  |        | BY2002 \$M       | TY \$M                |                                  |                  |
|----------------|-----------------------|--|--------|------------------|-----------------------|----------------------------------|------------------|
|                | SAR Baseline Prod Est | Current APB Production Objective/Threshold |        | Current Estimate | SAR Baseline Prod Est | Current APB Production Objective | Current Estimate |
| RDT&E          | 59.1                  | 59.1                                       | 65.0   | 54.5             | 73.8                  | 73.8                             | 68.8             |
| Procurement    | 2656.0                | 2656.0                                     | 2921.6 | 2075.9           | 3414.4                | 3414.4                           | 2720.9           |
| Flyaway        | --                    | --   | --     | 2075.9           | --                    | --                               | 2720.9           |
| Recurring      | --                    | --   | --     | 2075.9           | --                    | --                               | 2720.9           |
| Non Recurring  | --                    | --   | --     | 0.0              | --                    | --                               | 0.0              |
| Support        | --                    | --   | --     | 0.0              | --                    | --                               | 0.0              |
| Other Support  | --                    | --   | --     | 0.0              | --                    | --                               | 0.0              |
| Initial Spares | --                    | --   | --     | 0.0              | --                    | --                               | 0.0              |
| MILCON         | 0.0                   | 0.0  | --     | 0.0              | 0.0                   | 0.0                              | 0.0              |
| Acq O&M        | 0.0                   | 0.0  | --     | 0.0              | 0.0                   | 0.0                              | 0.0              |
| Total          | 2715.1                | 2715.1                                     | N/A    | 2130.4           | 3488.2                | 3488.2                           | 2789.7           |

**Confidence Level for Current APB Cost 50% -**

The Independent Cost Estimate (ICE) to support the AEHF SV 5-6 decision, like all life-cycle cost estimates previously performed by Cost Assessment and Program Evaluation (CAPE), is built upon a product-oriented work breakdown structure, which is based on historical actual cost information to the maximum extent possible, and, most importantly, based on conservative assumptions that are consistent with actual demonstrated contractor and Government performance for a series of acquisition programs in which the Department has been successful.

It is difficult to calculate mathematically the precise confidence levels associated with life-cycle cost estimates prepared for Major Defense Acquisition Programs. Based on the rigor in methods used in building estimates, the strong adherence to the collection and use of historical cost information, and the review of applied assumptions, we project that it is about equally likely that the estimate will prove too low or too high for execution of the program described.

The AEHF SV 5-6 current estimate reflects the ceiling price on SV 5/6 FPIF contract, including potential engineering change orders

| Quantity    | SAR Baseline Prod Est | Current APB Production | Current Estimate |
|-------------|-----------------------|------------------------|------------------|
| RDT&E       |                       | 0                      | 0                |
| Procurement |                       | 2                      | 2                |
| Total       |                       | 2                      | 2                |

## Cost and Funding

### Funding Summary - Total Program

#### Appropriation and Quantity Summary - Total Program FY2015 President's Budget / December 2013 SAR (TY\$ M)

| Appropriation | Prior   | FY2014 | FY2015 | FY2016 | FY2017 | FY2018 | FY2019 | To Complete | Total   |
|---------------|---------|--------|--------|--------|--------|--------|--------|-------------|---------|
| RDT&E         | 6965.4  | 203.1  | 212.0  | 63.9   | 21.5   | 0.0    | 0.0    | 0.0         | 7465.9  |
| Procurement   | 3940.5  | 328.3  | 298.9  | 335.7  | 656.5  | 57.8   | 29.8   | 47.7        | 5695.2  |
| MILCON        | 0.0     | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0         | 0.0     |
| Acq O&M       | 0.0     | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0         | 0.0     |
| PB 2015 Total | 10905.9 | 531.4  | 510.9  | 399.6  | 678.0  | 57.8   | 29.8   | 47.7        | 13161.1 |
| PB 2014 Total | 11023.3 | 582.9  | 458.3  | 436.6  | 753.5  | 58.2   | 30.0   | 47.7        | 13390.5 |
| Delta         | -117.4  | -51.5  | 52.6   | -37.0  | -75.5  | -0.4   | -0.2   | 0.0         | -229.4  |

## Cost and Funding

### Funding Summary - AEHF SV 1-4

#### Appropriation and Quantity Summary - AEHF SV 1-4 FY2015 President's Budget / December 2013 SAR (TY\$ M)

| Appropriation | Prior  | FY2014 | FY2015 | FY2016 | FY2017 | FY2018 | FY2019 | To Complete | Total   |
|---------------|--------|--------|--------|--------|--------|--------|--------|-------------|---------|
| RDT&E         | 6936.6 | 183.1  | 192.0  | 63.9   | 21.5   | 0.0    | 0.0    | 0.0         | 7397.1  |
| Procurement   | 2746.2 | 37.4   | 67.9   | 93.1   | 29.7   | 0.0    | 0.0    | 0.0         | 2974.3  |
| MILCON        | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0         | 0.0     |
| Acq O&M       | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0         | 0.0     |
| PB 2015 Total | 9682.8 | 220.5  | 259.9  | 157.0  | 51.2   | 0.0    | 0.0    | 0.0         | 10371.4 |
| PB 2014 Total | 9727.4 | 247.9  | 202.7  | 142.1  | 63.5   | 29.1   | 0.0    | 0.0         | 10412.7 |
| Delta         | -44.6  | -27.4  | 57.2   | 14.9   | -12.3  | -29.1  | 0.0    | 0.0         | -41.3   |

| Quantity      | Undistributed | Prior | FY2014 | FY2015 | FY2016 | FY2017 | FY2018 | FY2019 | To Complete | Total |
|---------------|---------------|-------|--------|--------|--------|--------|--------|--------|-------------|-------|
| Development   |               | 2     | 0      | 0      | 0      | 0      | 0      | 0      | 0           | 2     |
| Production    |               | 0     | 2      | 0      | 0      | 0      | 0      | 0      | 0           | 2     |
| PB 2015 Total |               | 2     | 2      | 0      | 0      | 0      | 0      | 0      | 0           | 4     |
| PB 2014 Total |               | 2     | 2      | 0      | 0      | 0      | 0      | 0      | 0           | 4     |
| Delta         |               | 0     | 0      | 0      | 0      | 0      | 0      | 0      | 0           | 0     |

## Funding Summary - AEHF SV 5-6

### Appropriation and Quantity Summary - AEHF SV 5-6 FY2015 President's Budget / December 2013 SAR (TY\$ M)

| Appropriation | Prior  | FY2014 | FY2015 | FY2016 | FY2017 | FY2018 | FY2019 | To Complete | Total  |
|---------------|--------|--------|--------|--------|--------|--------|--------|-------------|--------|
| RDT&E         | 28.8   | 20.0   | 20.0   | 0.0    | 0.0    | 0.0    | 0.0    | 0.0         | 68.8   |
| Procurement   | 1194.3 | 290.9  | 231.0  | 242.6  | 626.8  | 57.8   | 29.8   | 47.7        | 2720.9 |
| MILCON        | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0         | 0.0    |
| Acq O&M       | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0         | 0.0    |
| PB 2015 Total | 1223.1 | 310.9  | 251.0  | 242.6  | 626.8  | 57.8   | 29.8   | 47.7        | 2789.7 |
| PB 2014 Total | 1295.9 | 335.0  | 255.6  | 294.5  | 690.0  | 29.1   | 30.0   | 47.7        | 2977.8 |
| Delta         | -72.8  | -24.1  | -4.6   | -51.9  | -63.2  | 28.7   | -0.2   | 0.0         | -188.1 |

| Quantity      | Undistributed | Prior | FY2014 | FY2015 | FY2016 | FY2017 | FY2018 | FY2019 | To Complete | Total |
|---------------|---------------|-------|--------|--------|--------|--------|--------|--------|-------------|-------|
| Development   | 0             | 0     | 0      | 0      | 0      | 0      | 0      | 0      | 0           | 0     |
| Production    | 0             | 2     | 0      | 0      | 0      | 0      | 0      | 0      | 0           | 2     |
| PB 2015 Total | 0             | 2     | 0      | 0      | 0      | 0      | 0      | 0      | 0           | 2     |
| PB 2014 Total | 0             | 2     | 0      | 0      | 0      | 0      | 0      | 0      | 0           | 2     |
| Delta         | 0             | 0     | 0      | 0      | 0      | 0      | 0      | 0      | 0           | 0     |

## Cost and Funding

### Annual Funding By Appropriation - AEHF SV 1-4

#### Annual Funding TY\$ - AEHF SV 1-4

#### 3600 | RDT&E | Research, Development, Test, and Evaluation, Air Force

| Fiscal Year     | Quantity | End Item Recurring Flyaway TY \$M | Non End Item Recurring Flyaway TY \$M | Non Recurring Flyaway TY \$M | Total Flyaway TY \$M | Total Support TY \$M | Total Program TY \$M |
|-----------------|----------|-----------------------------------|---------------------------------------|------------------------------|----------------------|----------------------|----------------------|
| 1995            | --       | --                                | --                                    | --                           | --                   | --                   | 23.1                 |
| 1996            | --       | --                                | --                                    | --                           | --                   | --                   | 31.0                 |
| 1997            | --       | --                                | --                                    | --                           | --                   | --                   | 32.3                 |
| 1998            | --       | --                                | --                                    | --                           | --                   | --                   | 34.2                 |
| 1999            | --       | --                                | --                                    | --                           | --                   | --                   | 54.6                 |
| 2000            | --       | --                                | --                                    | --                           | --                   | --                   | 89.8                 |
| 2001            | --       | --                                | --                                    | --                           | --                   | --                   | 229.8                |
| 2002            | --       | --                                | --                                    | --                           | --                   | --                   | 494.8                |
| 2003            | --       | --                                | --                                    | --                           | --                   | --                   | 832.6                |
| 2004            | --       | --                                | --                                    | --                           | --                   | --                   | 872.7                |
| 2005            | --       | --                                | --                                    | --                           | --                   | --                   | 652.2                |
| 2006            | --       | --                                | --                                    | --                           | --                   | --                   | 647.7                |
| 2007            | --       | --                                | --                                    | --                           | --                   | --                   | 599.3                |
| 2008            | --       | --                                | --                                    | --                           | --                   | --                   | 659.1                |
| 2009            | --       | --                                | --                                    | --                           | --                   | --                   | 440.7                |
| 2010            | --       | --                                | --                                    | --                           | --                   | --                   | 456.2                |
| 2011            | --       | --                                | --                                    | --                           | --                   | --                   | 364.8                |
| 2012            | --       | --                                | --                                    | --                           | --                   | --                   | 283.5                |
| 2013            | --       | --                                | --                                    | --                           | --                   | --                   | 138.2                |
| 2014            | --       | --                                | --                                    | --                           | --                   | --                   | 183.1                |
| 2015            | --       | --                                | --                                    | --                           | --                   | --                   | 192.0                |
| 2016            | --       | --                                | --                                    | --                           | --                   | --                   | 63.9                 |
| 2017            | --       | --                                | --                                    | --                           | --                   | --                   | 21.5                 |
| <b>Subtotal</b> | <b>2</b> | --                                | --                                    | --                           | --                   | --                   | <b>7397.1</b>        |

## Annual Funding BY\$ - AEHF SV 1-4

## 3600 | RDT&amp;E | Research, Development, Test, and Evaluation, Air Force

| Fiscal Year     | Quantity | End Item Recurring Flyaway BY 2002 \$M | Non End Item Recurring Flyaway BY 2002 \$M | Non Recurring Flyaway BY 2002 \$M | Total Flyaway BY 2002 \$M | Total Support BY 2002 \$M | Total Program BY 2002 \$M |
|-----------------|----------|--|--|-----------------------------------|---------------------------|---------------------------|---------------------------|
| 1995            | --       | --                                     | --   | --                                | --                        | --                        | 25.0                      |
| 1996            | --       | --                                     | --   | --                                | --                        | --                        | 33.0                      |
| 1997            | --       | --                                     | --   | --                                | --                        | --                        | 33.9                      |
| 1998            | --       | --                                     | --   | --                                | --                        | --                        | 35.7                      |
| 1999            | --       | --                                     | --   | --                                | --                        | --                        | 56.4                      |
| 2000            | --       | --                                     | --   | --                                | --                        | --                        | 91.4                      |
| 2001            | --       | --                                     | --   | --                                | --                        | --                        | 230.5                     |
| 2002            | --       | --                                     | --   | --                                | --                        | --                        | 491.1                     |
| 2003            | --       | --                                     | --   | --                                | --                        | --                        | 815.2                     |
| 2004            | --       | --                                     | --   | --                                | --                        | --                        | 833.7                     |
| 2005            | --       | --                                     | --   | --                                | --                        | --                        | 607.5                     |
| 2006            | --       | --                                     | --   | --                                | --                        | --                        | 585.6                     |
| 2007            | --       | --                                     | --   | --                                | --                        | --                        | 528.0                     |
| 2008            | --       | --                                     | --   | --                                | --                        | --                        | 569.2                     |
| 2009            | --       | --                                     | --   | --                                | --                        | --                        | 375.6                     |
| 2010            | --       | --                                     | --   | --                                | --                        | --                        | 384.0                     |
| 2011            | --       | --                                     | --   | --                                | --                        | --                        | 301.3                     |
| 2012            | --       | --                                     | --   | --                                | --                        | --                        | 230.1                     |
| 2013            | --       | --                                     | --   | --                                | --                        | --                        | 110.2                     |
| 2014            | --       | --                                     | --   | --                                | --                        | --                        | 143.6                     |
| 2015            | --       | --                                     | --   | --                                | --                        | --                        | 147.9                     |
| 2016            | --       | --                                     | --   | --                                | --                        | --                        | 48.3                      |
| 2017            | --       | --                                     | --   | --                                | --                        | --                        | 15.9                      |
| <b>Subtotal</b> | <b>2</b> | --                                     | --   | --                                | --                        | --                        | <b>6693.1</b>             |

The RDT&E APPN funding profile identified in this SAR includes \$270.5M in International Partners (IP) funding and does not include \$119M (FY 2003 - FY 2009) for Production and Qualification (P&Q) of Radiation Hardened Components.

The yearly breakout of the funding is as follows:

| IP Funds (\$M) |      |
|----------------|------|
| FY 2002        | 35.2 |
| FY 2003        | 44.0 |
| FY 2004        | 91.0 |
| FY 2005        | 67.0 |
| FY 2006        | 28.5 |
| FY 2007        | 3.0  |
| FY 2008        | 1.8  |

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|       |       |
|-------|-------|
| Total | 270.5 |
|-------|-------|

The yearly breakout of the P&Q of Radiation Hardened Components funding is as follows:

| P&Q     | (\$M) |
|---------|-------|
| FY 2003 | 19.0  |
| FY 2004 | 19.0  |
| FY 2005 | 21.0  |
| FY 2006 | 20.0  |
| FY 2007 | 21.0  |
| FY 2009 | 19.0  |

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|       |       |
|-------|-------|
| Total | 119.0 |
|-------|-------|

## Annual Funding TY\$ - AEHF SV 1-4

## 3020 | Procurement | Missile Procurement, Air Force

| Fiscal Year     | Quantity | End Item Recurring Flyaway TY \$M | Non End Item Recurring Flyaway TY \$M | Non Recurring Flyaway TY \$M | Total Flyaway TY \$M | Total Support TY \$M | Total Program TY \$M |
|-----------------|----------|-----------------------------------|---------------------------------------|------------------------------|----------------------|----------------------|----------------------|
| 2005            | --       | 78.2                              | --                                    | --                           | 78.2                 | --                   | 78.2                 |
| 2006            | 1        | 521.9                             | --                                    | --                           | 521.9                | --                   | 521.9                |
| 2007            | --       | --                                | --                                    | --                           | --                   | --                   | --                   |
| 2008            | --       | 141.4                             | --                                    | --                           | 141.4                | --                   | 141.4                |
| 2009            | --       | 181.2                             | --                                    | --                           | 181.2                | --                   | 181.2                |
| 2010            | 1        | 1734.5                            | --                                    | --                           | 1734.5               | --                   | 1734.5               |
| 2011            | --       | 29.7                              | --                                    | --                           | 29.7                 | --                   | 29.7                 |
| 2012            | --       | 17.6                              | --                                    | --                           | 17.6                 | --                   | 17.6                 |
| 2013            | --       | 41.7                              | --                                    | --                           | 41.7                 | --                   | 41.7                 |
| 2014            | --       | 37.4                              | --                                    | --                           | 37.4                 | --                   | 37.4                 |
| 2015            | --       | 67.9                              | --                                    | --                           | 67.9                 | --                   | 67.9                 |
| 2016            | --       | 93.1                              | --                                    | --                           | 93.1                 | --                   | 93.1                 |
| 2017            | --       | 29.7                              | --                                    | --                           | 29.7                 | --                   | 29.7                 |
| <b>Subtotal</b> | <b>2</b> | <b>2974.3</b>                     | <b>--</b>                             | <b>--</b>                    | <b>2974.3</b>        | <b>--</b>            | <b>2974.3</b>        |

**Annual Funding BY\$ - AEHF SV 1-4**  
**3020 | Procurement | Missile Procurement, Air Force**

| <b>Fiscal Year</b> | <b>Quantity</b> | <b>End Item Recurring Flyaway BY 2002 \$M</b> | <b>Non End Item Recurring Flyaway BY 2002 \$M</b> | <b>Non Recurring Flyaway BY 2002 \$M</b> | <b>Total Flyaway BY 2002 \$M</b> | <b>Total Support BY 2002 \$M</b> | <b>Total Program BY 2002 \$M</b> |
|--------------------|-----------------|---|---|--|----------------------------------|----------------------------------|----------------------------------|
| 2005               | --              | 72.0  | --  | --                                       | 72.0                             | --                               | 72.0                             |
| 2006               | 1               | 467.3   | --  | --                                       | 467.3                            | --                               | 467.3                            |
| 2007               | --              | --  | --  | --                                       | --                               | --                               | --                               |
| 2008               | --              | 121.3   | --  | --                                       | 121.3                            | --                               | 121.3                            |
| 2009               | --              | 153.2   | --  | --                                       | 153.2                            | --                               | 153.2                            |
| 2010               | 1               | 1446.1  | --  | --                                       | 1446.1                           | --                               | 1446.1                           |
| 2011               | --              | 24.3  | --  | --                                       | 24.3                             | --                               | 24.3                             |
| 2012               | --              | 14.1  | --  | --                                       | 14.1                             | --                               | 14.1                             |
| 2013               | --              | 32.6  | --  | --                                       | 32.6                             | --                               | 32.6                             |
| 2014               | --              | 28.7  | --  | --                                       | 28.7                             | --                               | 28.7                             |
| 2015               | --              | 51.1  | --  | --                                       | 51.1                             | --                               | 51.1                             |
| 2016               | --              | 68.7  | --  | --                                       | 68.7                             | --                               | 68.7                             |
| 2017               | --              | 21.5  | --  | --                                       | 21.5                             | --                               | 21.5                             |
| <b>Subtotal</b>    | <b>2</b>        | <b>2500.9</b>                                 | <b>--</b>   | <b>--</b>                                | <b>2500.9</b>                    | <b>--</b>                        | <b>2500.9</b>                    |

**Cost Quantity Information - AEHF SV 1-4**  
**3020 | Procurement | Missile Procurement, Air Force**

| <b>Fiscal Year</b> | <b>Quantity</b> | <b>End Item<br/>Recurring<br/>Flyaway<br/>(Aligned<br/>with<br/>Quantity)<br/>BY 2002<br/>\$M</b> |
|--------------------|-----------------|---|
| 2005               | --              | --  |
| 2006               | 1               | 858.0   |
| 2007               | --              | --  |
| 2008               | --              | --  |
| 2009               | --              | --  |
| 2010               | 1               | 1642.9  |
| 2011               | --              | --  |
| 2012               | --              | --  |
| 2013               | --              | --  |
| 2014               | --              | --  |
| 2015               | --              | --  |
| 2016               | --              | --  |
| 2017               | --              | --  |
| <b>Subtotal</b>    | <b>2</b>        | <b>2500.9</b>   |

## Annual Funding By Appropriation - AEHF SV 5-6

### Annual Funding TY\$ - AEHF SV 5-6

#### 3600 | RDT&E | Research, Development, Test, and Evaluation, Air Force

| Fiscal Year     | Quantity | End Item Recurring Flyaway TY \$M | Non End Item Recurring Flyaway TY \$M | Non Recurring Flyaway TY \$M | Total Flyaway TY \$M | Total Support TY \$M | Total Program TY \$M |
|-----------------|----------|-----------------------------------|---------------------------------------|------------------------------|----------------------|----------------------|----------------------|
| 2011            | --       | --                                | --                                    | --                           | --                   | --                   | 13.8                 |
| 2012            | --       | --                                | --                                    | --                           | --                   | --                   | --                   |
| 2013            | --       | --                                | --                                    | --                           | --                   | --                   | 15.0                 |
| 2014            | --       | --                                | --                                    | --                           | --                   | --                   | 20.0                 |
| 2015            | --       | --                                | --                                    | --                           | --                   | --                   | 20.0                 |
| <b>Subtotal</b> | --       | --                                | --                                    | --                           | --                   | --                   | <b>68.8</b>          |

## Annual Funding BY\$ - AEHF SV 5-6

## 3600 | RDT&amp;E | Research, Development, Test, and Evaluation, Air Force

| Fiscal Year     | Quantity | End Item Recurring Flyaway<br>BY 2002 \$M | Non End Item Recurring Flyaway<br>BY 2002 \$M | Non Recurring Flyaway<br>BY 2002 \$M | Total Flyaway<br>BY 2002 \$M | Total Support<br>BY 2002 \$M | Total Program<br>BY 2002 \$M |
|-----------------|----------|---|---|--------------------------------------|------------------------------|------------------------------|------------------------------|
| 2011            | --       | --  | --  | --                                   | --                           | --                           | 11.4                         |
| 2012            | --       | --  | --  | --                                   | --                           | --                           | --                           |
| 2013            | --       | --  | --  | --                                   | --                           | --                           | 12.0                         |
| 2014            | --       | --  | --  | --                                   | --                           | --                           | 15.7                         |
| 2015            | --       | --  | --  | --                                   | --                           | --                           | 15.4                         |
| <b>Subtotal</b> | --       | --  | --  | --                                   | --                           | --                           | <b>54.5</b>                  |

## Annual Funding TY\$ - AEHF SV 5-6

## 3020 | Procurement | Missile Procurement, Air Force

| Fiscal Year     | Quantity | End Item Recurring Flyaway TY \$M | Non End Item Recurring Flyaway TY \$M | Non Recurring Flyaway TY \$M | Total Flyaway TY \$M | Total Support TY \$M | Total Program TY \$M |
|-----------------|----------|-----------------------------------|---------------------------------------|------------------------------|----------------------|----------------------|----------------------|
| 2011            | --       | 227.2                             | --                                    | --                           | 227.2                | --                   | 227.2                |
| 2012            | 2        | 532.3                             | --                                    | --                           | 532.3                | --                   | 532.3                |
| 2013            | --       | 434.8                             | --                                    | --                           | 434.8                | --                   | 434.8                |
| 2014            | --       | 290.9                             | --                                    | --                           | 290.9                | --                   | 290.9                |
| 2015            | --       | 231.0                             | --                                    | --                           | 231.0                | --                   | 231.0                |
| 2016            | --       | 242.6                             | --                                    | --                           | 242.6                | --                   | 242.6                |
| 2017            | --       | 626.8                             | --                                    | --                           | 626.8                | --                   | 626.8                |
| 2018            | --       | 57.8                              | --                                    | --                           | 57.8                 | --                   | 57.8                 |
| 2019            | --       | 29.8                              | --                                    | --                           | 29.8                 | --                   | 29.8                 |
| 2020            | --       | 31.7                              | --                                    | --                           | 31.7                 | --                   | 31.7                 |
| 2021            | --       | 16.0                              | --                                    | --                           | 16.0                 | --                   | 16.0                 |
| <b>Subtotal</b> | <b>2</b> | <b>2720.9</b>                     | <b>--</b>                             | <b>--</b>                    | <b>2720.9</b>        | <b>--</b>            | <b>2720.9</b>        |

## Annual Funding BY\$ - AEHF SV 5-6

## 3020 | Procurement | Missile Procurement, Air Force

| Fiscal Year     | Quantity | End Item Recurring Flyaway BY 2002 \$M | Non End Item Recurring Flyaway BY 2002 \$M | Non Recurring Flyaway BY 2002 \$M | Total Flyaway BY 2002 \$M | Total Support BY 2002 \$M | Total Program BY 2002 \$M |
|-----------------|----------|--|--|-----------------------------------|---------------------------|---------------------------|---------------------------|
| 2011            | --       | 185.5                                  | --   | --                                | 185.5                     | --                        | 185.5                     |
| 2012            | 2        | 427.1                                  | --   | --                                | 427.1                     | --                        | 427.1                     |
| 2013            | --       | 339.5                                  | --   | --                                | 339.5                     | --                        | 339.5                     |
| 2014            | --       | 223.2                                  | --   | --                                | 223.2                     | --                        | 223.2                     |
| 2015            | --       | 173.9                                  | --   | --                                | 173.9                     | --                        | 173.9                     |
| 2016            | --       | 179.1                                  | --   | --                                | 179.1                     | --                        | 179.1                     |
| 2017            | --       | 453.6                                  | --   | --                                | 453.6                     | --                        | 453.6                     |
| 2018            | --       | 41.0                                   | --   | --                                | 41.0                      | --                        | 41.0                      |
| 2019            | --       | 20.7                                   | --   | --                                | 20.7                      | --                        | 20.7                      |
| 2020            | --       | 21.6                                   | --   | --                                | 21.6                      | --                        | 21.6                      |
| 2021            | --       | 10.7                                   | --   | --                                | 10.7                      | --                        | 10.7                      |
| <b>Subtotal</b> | <b>2</b> | <b>2075.9</b>                          | <b>--</b>                                  | <b>--</b>                         | <b>2075.9</b>             | <b>--</b>                 | <b>2075.9</b>             |

**Cost Quantity Information - AEHF SV 5-6**  
**3020 | Procurement | Missile Procurement, Air Force**

| <b>Fiscal Year</b> | <b>Quantity</b> | <b>End Item Recurring Flyaway (Aligned with Quantity) BY 2002 \$M</b> |
|--------------------|-----------------|---|
| 2011               | --              | --  |
| 2012               | 2               | 2075.9  |
| 2013               | --              | --  |
| 2014               | --              | --  |
| 2015               | --              | --  |
| 2016               | --              | --  |
| 2017               | --              | --  |
| 2018               | --              | --  |
| 2019               | --              | --  |
| 2020               | --              | --  |
| 2021               | --              | --  |
| <b>Subtotal</b>    | <b>2</b>        | <b>2075.9</b>   |

## Low Rate Initial Production

There is no LRIP for this Program.

## Foreign Military Sales

### AEHF SV 1-4

| Country        | Date of Sale | Quantity | Total Cost \$M | Memo |
|----------------|--------------|----------|----------------|------|
| United Kingdom | 9/9/2003     |          | 84.0           |      |
| Netherlands    | 11/8/2002    |          | 39.8           |      |
| Canada         | 11/16/1999   |          | 146.2          |      |

The AEHF program has no FMS; all sales in the table are International Partner (IP) cooperation.

The IP's access the antennas and a portion of the capacity on the AEHF satellites.

NOTE: The total IP O&S contribution is \$114.3M. O&S costs are commensurate with system resource usage respectively. The specific break out by IP is as follows:

Canada: \$68.2M

The Netherlands: \$14.8M

United Kingdom: \$31.3M

### AEHF SV 5-6

None

## Nuclear Costs

### AEHF SV 1-4

None

### AEHF SV 5-6

None

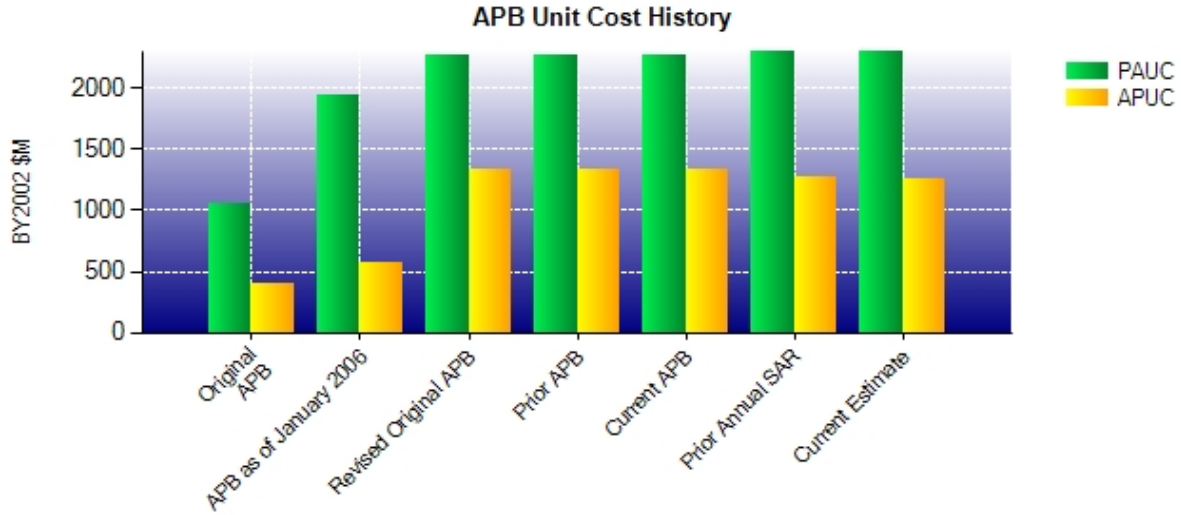
**Unit Cost****AEHF SV 1-4****Unit Cost Report**

|   | <b>BY2002 \$M</b>                                  | <b>BY2002 \$M</b>                          |                        |
|---|--|--|------------------------|
| <b>Unit Cost</b>                            | <b>Current UCR<br/>Baseline<br/>(MAR 2014 APB)</b> | <b>Current Estimate<br/>(DEC 2013 SAR)</b> | <b>BY<br/>% Change</b> |
| <b>Program Acquisition Unit Cost (PAUC)</b> |  |  |                        |
| Cost  | 9085.3   | 9194.0                                     |                        |
| Quantity                                    | 4  | 4  |                        |
| Unit Cost                                   | 2271.325   | 2298.500                                   | +1.20                  |
| <b>Average Procurement Unit Cost (APUC)</b> |  |  |                        |
| Cost  | 2655.1   | 2500.9                                     |                        |
| Quantity                                    | 2  | 2  |                        |
| Unit Cost                                   | 1327.550   | 1250.450                                   | -5.81                  |

|   | <b>BY2002 \$M</b>   | <b>BY2002 \$M</b>                          |                        |
|---|---|--|------------------------|
| <b>Unit Cost</b>                            | <b>Revised<br/>Original UCR<br/>Baseline<br/>(JUN 2011 APB)</b> | <b>Current Estimate<br/>(DEC 2013 SAR)</b> | <b>BY<br/>% Change</b> |
| <b>Program Acquisition Unit Cost (PAUC)</b> |   |  |                        |
| Cost  | 9085.3  | 9194.0                                     |                        |
| Quantity                                    | 4   | 4  |                        |
| Unit Cost                                   | 2271.325  | 2298.500                                   | +1.20                  |
| <b>Average Procurement Unit Cost (APUC)</b> |   |  |                        |
| Cost  | 2655.1  | 2500.9                                     |                        |
| Quantity                                    | 2   | 2  |                        |
| Unit Cost                                   | 1327.550  | 1250.450                                   | -5.81                  |

**AEHF SV 1-4**

**Unit Cost History**



|                               | Date     | BY2002 \$M |          | TY \$M   |          |
|-------------------------------|----------|------------|----------|----------|----------|
|                               |          | PAUC       | APUC     | PAUC     | APUC     |
| <b>Original APB</b>           | OCT 2001 | 1055.840   | 401.667  | 1129.060 | 460.133  |
| <b>APB as of January 2006</b> | MAR 2005 | 1933.567   | 577.000  | 2028.567 | 617.300  |
| <b>Revised Original APB</b>   | JUN 2011 | 2271.325   | 1327.550 | 2548.775 | 1575.550 |
| <b>Prior APB</b>              | OCT 2012 | 2271.325   | 1327.550 | 2548.775 | 1575.550 |
| <b>Current APB</b>            | MAR 2014 | 2271.325   | 1327.550 | 2548.775 | 1575.550 |
| <b>Prior Annual SAR</b>       | DEC 2012 | 2303.775   | 1272.850 | 2603.175 | 1519.850 |
| <b>Current Estimate</b>       | DEC 2013 | 2298.500   | 1250.450 | 2592.850 | 1487.150 |

**SAR Unit Cost History**

**Initial SAR Baseline to Current SAR Baseline (TY \$M)**

| Initial PAUC<br>Dev Est | Changes |          |         |       |         |       |        |         | PAUC<br>Prod Est |
|-------------------------|---------|----------|---------|-------|---------|-------|--------|---------|------------------|
|                         | Econ    | Qty      | Sch     | Eng   | Est     | Oth   | Spt    | Total   |                  |
| 1129.060                | -35.225 | -291.584 | 262.425 | 0.000 | 342.633 | 0.000 | -0.275 | 277.974 | 2028.567         |

**Current SAR Baseline to Current Estimate (TY \$M)**

| PAUC<br>Prod Est | Changes |          |         |        |         |       |       |         | PAUC<br>Current Est |
|------------------|---------|----------|---------|--------|---------|-------|-------|---------|---------------------|
|                  | Econ    | Qty      | Sch     | Eng    | Est     | Oth   | Spt   | Total   |                     |
| 2028.567         | 43.300  | -270.642 | 316.800 | 22.025 | 452.800 | 0.000 | 0.000 | 564.283 | 2592.850            |

**Initial SAR Baseline to Current SAR Baseline (TY \$M)**

| Initial APUC<br>Dev Est | Changes |         |        |       |         |       |        |          | APUC<br>Prod Est |
|-------------------------|---------|---------|--------|-------|---------|-------|--------|----------|------------------|
|                         | Econ    | Qty     | Sch    | Eng   | Est     | Oth   | Spt    | Total    |                  |
| 460.133                 | -3.250  | 912.967 | 88.600 | 0.000 | 998.650 | 0.000 | -0.550 | 1996.417 | 617.300          |

**Current SAR Baseline to Current Estimate (TY \$M)**

| APUC<br>Prod Est | Changes |         |         |       |         |       |       |         | APUC<br>Current Est |
|------------------|---------|---------|---------|-------|---------|-------|-------|---------|---------------------|
|                  | Econ    | Qty     | Sch     | Eng   | Est     | Oth   | Spt   | Total   |                     |
| 617.300          | 26.050  | 164.350 | -30.900 | 0.000 | 710.350 | 0.000 | 0.000 | 869.850 | 1487.150            |

**SAR Baseline History**

| Item/Event                  | SAR<br>Planning<br>Estimate (PE) | SAR<br>Development<br>Estimate (DE) | SAR<br>Production<br>Estimate (PdE) | Current<br>Estimate |
|-----------------------------|----------------------------------|-------------------------------------|-------------------------------------|---------------------|
| Milestone I                 | APR 1999                         | APR 1999                            | APR 1999                            | APR 1999            |
| Milestone B                 | FEB 2001                         | JUN 2001                            | JUN 2001                            | SEP 2001            |
| Milestone C                 | FEB 2001                         | JUN 2004                            | JUN 2004                            | JUN 2004            |
| IOC                         | NOV 2007                         | JUL 2008                            | JUN 2010                            | JUN 2015            |
| Total Cost (TY \$M)         | 2690.6                           | 5645.3                              | 6085.7                              | 10371.4             |
| Total Quantity              | 2                                | 5                                   | 3                                   | 4                   |
| Prog. Acq. Unit Cost (PAUC) | 1345.300                         | 1129.060                            | 2028.567                            | 2592.850            |

## AEHF SV 5-6

## Unit Cost Report

|           | BY2002 \$M                                | BY2002 \$M                         |                |
|-----------|---|------------------------------------|----------------|
| Unit Cost | Current UCR<br>Baseline<br>(OCT 2012 APB) | Current Estimate<br>(DEC 2013 SAR) | BY<br>% Change |

## Program Acquisition Unit Cost (PAUC)

|           |          |          |        |
|-----------|----------|----------|--------|
| Cost      | 2715.1   | 2130.4   |        |
| Quantity  | 2        | 2        |        |
| Unit Cost | 1357.550 | 1065.200 | -21.54 |

## Average Procurement Unit Cost (APUC)

|           |          |          |        |
|-----------|----------|----------|--------|
| Cost      | 2656.0   | 2075.9   |        |
| Quantity  | 2        | 2        |        |
| Unit Cost | 1328.000 | 1037.950 | -21.84 |

|           | BY2002 \$M                                 | BY2002 \$M                         |                |
|-----------|--|------------------------------------|----------------|
| Unit Cost | Original UCR<br>Baseline<br>(OCT 2012 APB) | Current Estimate<br>(DEC 2013 SAR) | BY<br>% Change |

## Program Acquisition Unit Cost (PAUC)

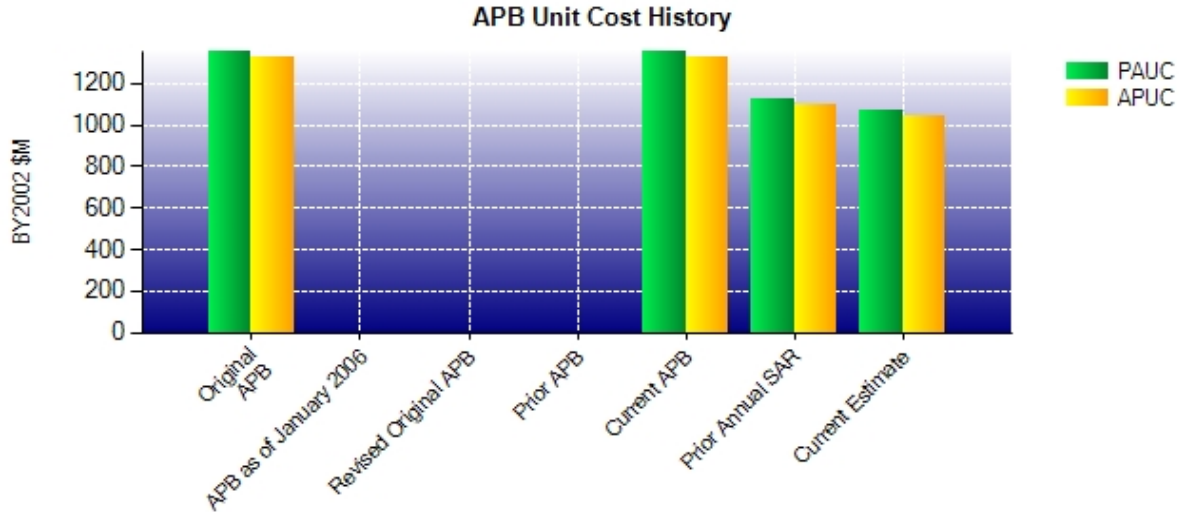
|           |          |          |        |
|-----------|----------|----------|--------|
| Cost      | 2715.1   | 2130.4   |        |
| Quantity  | 2        | 2        |        |
| Unit Cost | 1357.550 | 1065.200 | -21.54 |

## Average Procurement Unit Cost (APUC)

|           |          |          |        |
|-----------|----------|----------|--------|
| Cost      | 2656.0   | 2075.9   |        |
| Quantity  | 2        | 2        |        |
| Unit Cost | 1328.000 | 1037.950 | -21.84 |

**AEHF SV 5-6**

**Unit Cost History**



|                               | Date     | BY2002 \$M |          | TY \$M   |          |
|-------------------------------|----------|------------|----------|----------|----------|
|                               |          | PAUC       | APUC     | PAUC     | APUC     |
| <b>Original APB</b>           | OCT 2012 | 1357.550   | 1328.000 | 1744.100 | 1707.200 |
| <b>APB as of January 2006</b> | N/A      | N/A        | N/A      | N/A      | N/A      |
| <b>Revised Original APB</b>   | N/A      | N/A        | N/A      | N/A      | N/A      |
| <b>Prior APB</b>              | N/A      | N/A        | N/A      | N/A      | N/A      |
| <b>Current APB</b>            | MAR 2014 | 1357.550   | 1328.000 | 1744.100 | 1707.200 |
| <b>Prior Annual SAR</b>       | DEC 2012 | 1127.900   | 1099.150 | 1488.900 | 1452.250 |
| <b>Current Estimate</b>       | DEC 2013 | 1065.200   | 1037.950 | 1394.850 | 1360.450 |

**SAR Unit Cost History**

**Current SAR Baseline to Current Estimate (TY \$M)**

| Initial PAUC Prod Est | Changes |       |       |       |          |       |       |          | PAUC Current Est |
|-----------------------|---------|-------|-------|-------|----------|-------|-------|----------|------------------|
|                       | Econ    | Qty   | Sch   | Eng   | Est      | Oth   | Spt   | Total    |                  |
| 1744.100              | 42.600  | 0.000 | 0.000 | 0.000 | -391.850 | 0.000 | 0.000 | -349.250 | 1394.850         |

## Current SAR Baseline to Current Estimate (TY \$M)

| Initial APUC<br>Prod Est | Changes |       |       |       |          |       |       |          | APUC<br>Current Est |
|--------------------------|---------|-------|-------|-------|----------|-------|-------|----------|---------------------|
|                          | Econ    | Qty   | Sch   | Eng   | Est      | Oth   | Spt   | Total    |                     |
| 1707.200                 | 42.150  | 0.000 | 0.000 | 0.000 | -388.900 | 0.000 | 0.000 | -346.750 | 1360.450            |

## SAR Baseline History

| Item/Event                  | SAR<br>Planning<br>Estimate (PE) | SAR<br>Development<br>Estimate (DE) | SAR<br>Production<br>Estimate (PdE) | Current<br>Estimate |
|-----------------------------|----------------------------------|-------------------------------------|-------------------------------------|---------------------|
| Milestone A                 | N/A                              | N/A                                 | N/A                                 | N/A                 |
| Milestone B                 | N/A                              | N/A                                 | N/A                                 | N/A                 |
| Milestone C                 | N/A                              | N/A                                 | N/A                                 | N/A                 |
| IOC                         | N/A                              | N/A                                 | N/A                                 | N/A                 |
| Total Cost (TY \$M)         | N/A                              | N/A                                 | 3488.2                              | 2789.7              |
| Total Quantity              | N/A                              | N/A                                 | 2                                   | 2                   |
| Prog. Acq. Unit Cost (PAUC) | N/A                              | N/A                                 | 1744.100                            | 1394.850            |

**Cost Variance****AEHF SV 1-4**

| <b>Summary Then Year \$M</b> |                  |                |               |                |
|------------------------------|------------------|----------------|---------------|----------------|
|                              | <b>RDT&amp;E</b> | <b>Proc</b>    | <b>MILCON</b> | <b>Total</b>   |
| SAR Baseline (Prod Est)      | 5468.4           | 617.3          | --            | 6085.7         |
| Previous Changes             |                  |                |               |                |
| Economic                     | +128.5           | +57.0          | --            | +185.5         |
| Quantity                     | --               | +946.0         | --            | +946.0         |
| Schedule                     | +1329.0          | -61.8          | --            | +1267.2        |
| Engineering                  | +88.1            | --             | --            | +88.1          |
| Estimating                   | +359.0           | +1481.2        | --            | +1840.2        |
| Other                        | --               | --             | --            | --             |
| Support                      | --               | --             | --            | --             |
| <b>Subtotal</b>              | <b>+1904.6</b>   | <b>+2422.4</b> | <b>--</b>     | <b>+4327.0</b> |
| Current Changes              |                  |                |               |                |
| Economic                     | -7.4             | -4.9           | --            | -12.3          |
| Quantity                     | --               | --             | --            | --             |
| Schedule                     | --               | --             | --            | --             |
| Engineering                  | --               | --             | --            | --             |
| Estimating                   | +31.5            | -60.5          | --            | -29.0          |
| Other                        | --               | --             | --            | --             |
| Support                      | --               | --             | --            | --             |
| <b>Subtotal</b>              | <b>+24.1</b>     | <b>-65.4</b>   | <b>--</b>     | <b>-41.3</b>   |
| <b>Total Changes</b>         | <b>+1928.7</b>   | <b>+2357.0</b> | <b>--</b>     | <b>+4285.7</b> |
| CE - Cost Variance           | 7397.1           | 2974.3         | --            | 10371.4        |
| CE - Cost & Funding          | 7397.1           | 2974.3         | --            | 10371.4        |

| <b>Summary Base Year 2002 \$M</b> |                  |                |               |                |
|-----------------------------------|------------------|----------------|---------------|----------------|
|                                   | <b>RDT&amp;E</b> | <b>Proc</b>    | <b>MILCON</b> | <b>Total</b>   |
| SAR Baseline (Prod Est)           | 5223.7           | 577.0          | --            | 5800.7         |
| Previous Changes                  |                  |                |               |                |
| Economic                          | --               | --             | --            | --             |
| Quantity                          | --               | +784.9         | --            | +784.9         |
| Schedule                          | +1091.3          | --             | --            | +1091.3        |
| Engineering                       | +77.0            | --             | --            | +77.0          |
| Estimating                        | +277.4           | +1183.8        | --            | +1461.2        |
| Other                             | --               | --             | --            | --             |
| Support                           | --               | --             | --            | --             |
| <b>Subtotal</b>                   | <b>+1445.7</b>   | <b>+1968.7</b> | <b>--</b>     | <b>+3414.4</b> |
| Current Changes                   |                  |                |               |                |
| Economic                          | --               | --             | --            | --             |
| Quantity                          | --               | --             | --            | --             |
| Schedule                          | --               | --             | --            | --             |
| Engineering                       | --               | --             | --            | --             |
| Estimating                        | +23.7            | -44.8          | --            | -21.1          |
| Other                             | --               | --             | --            | --             |
| Support                           | --               | --             | --            | --             |
| <b>Subtotal</b>                   | <b>+23.7</b>     | <b>-44.8</b>   | <b>--</b>     | <b>-21.1</b>   |
| <b>Total Changes</b>              | <b>+1469.4</b>   | <b>+1923.9</b> | <b>--</b>     | <b>+3393.3</b> |
| CE - Cost Variance                | 6693.1           | 2500.9         | --            | 9194.0         |
| CE - Cost & Funding               | 6693.1           | 2500.9         | --            | 9194.0         |

Previous Estimate: December 2012

| <b>RDT&amp;E</b>  | <b>\$M</b>       |                  |
|---|------------------|------------------|
| <b>Current Change Explanations</b>  | <b>Base Year</b> | <b>Then Year</b> |
| Revised escalation indices. (Economic)  | N/A              | -7.4             |
| Reduced estimate to reflect prior/current year reductions (budgetary reduction for Small Business Innovative Research). (Estimating)                    | -12.6            | -16.0            |
| Revised estimate due to technical issues associated with Mission Control Segment (MCS) software that resulted in a six-month delay of IOC. (Estimating) | +44.2            | +57.4            |
| Adjustment for current and prior escalation. (Estimating)   | +4.0             | +5.0             |
| Reduced estimate to reflect FY 2013 sequestration reduction; resulted in elimination of Delta IV Compatibility Study. (Estimating)                      | -11.9            | -14.9            |
| <b>RDT&amp;E Subtotal</b>   | <b>+23.7</b>     | <b>+24.1</b>     |

| <b>Procurement</b>   | <b>\$M</b>       |                  |
|--|------------------|------------------|
| <b>Current Change Explanations</b>   | <b>Base Year</b> | <b>Then Year</b> |
| Revised escalation indices. (Economic)   | N/A              | -4.9             |
| Reduced estimate to reflect prior year congressional reductions. (Estimating)  | -0.2             | -0.2             |
| Revised estimate to reallocate program support between subprograms to better align with program requirements. (Estimating) | -44.7            | -61.8            |
| Revised estimate to rephase funding between subprograms to align with AEHF 4 launch operation requirements. (Estimating)   | -1.1             | 0.0              |
| Adjustment for current and prior escalation. (Estimating)  | +2.5             | +3.1             |
| Reduced estimate to reflect FY 2012 sequestration reduction. (Estimating)  | -1.3             | -1.6             |
| <b>Procurement Subtotal</b>  | <b>-44.8</b>     | <b>-65.4</b>     |

**Cost Variance****AEHF SV 5-6**

| <b>Summary Then Year \$M</b> |                  |             |               |              |
|------------------------------|------------------|-------------|---------------|--------------|
|                              | <b>RDT&amp;E</b> | <b>Proc</b> | <b>MILCON</b> | <b>Total</b> |
| SAR Baseline (Prod Est)      | 73.8             | 3414.4      | --            | 3488.2       |
| Previous Changes             |                  |             |               |              |
| Economic                     | +1.6             | +106.1      | --            | +107.7       |
| Quantity                     | --               | --          | --            | --           |
| Schedule                     | --               | --          | --            | --           |
| Engineering                  | --               | --          | --            | --           |
| Estimating                   | -2.1             | -616.0      | --            | -618.1       |
| Other                        | --               | --          | --            | --           |
| Support                      | --               | --          | --            | --           |
| Subtotal                     | -0.5             | -509.9      | --            | -510.4       |
| Current Changes              |                  |             |               |              |
| Economic                     | -0.7             | -21.8       | --            | -22.5        |
| Quantity                     | --               | --          | --            | --           |
| Schedule                     | --               | --          | --            | --           |
| Engineering                  | --               | --          | --            | --           |
| Estimating                   | -3.8             | -161.8      | --            | -165.6       |
| Other                        | --               | --          | --            | --           |
| Support                      | --               | --          | --            | --           |
| Subtotal                     | -4.5             | -183.6      | --            | -188.1       |
| Total Changes                | -5.0             | -693.5      | --            | -698.5       |
| CE - Cost Variance           | 68.8             | 2720.9      | --            | 2789.7       |
| CE - Cost & Funding          | 68.8             | 2720.9      | --            | 2789.7       |

| Summary Base Year 2002 \$M |       |        |        |        |
|----------------------------|-------|--------|--------|--------|
|                            | RDT&E | Proc   | MILCON | Total  |
| SAR Baseline (Prod Est)    | 59.1  | 2656.0 | --     | 2715.1 |
| Previous Changes           |       |        |        |        |
| Economic                   | --    | --     | --     | --     |
| Quantity                   | --    | --     | --     | --     |
| Schedule                   | --    | --     | --     | --     |
| Engineering                | --    | --     | --     | --     |
| Estimating                 | -1.6  | -457.7 | --     | -459.3 |
| Other                      | --    | --     | --     | --     |
| Support                    | --    | --     | --     | --     |
| Subtotal                   | -1.6  | -457.7 | --     | -459.3 |
| Current Changes            |       |        |        |        |
| Economic                   | --    | --     | --     | --     |
| Quantity                   | --    | --     | --     | --     |
| Schedule                   | --    | --     | --     | --     |
| Engineering                | --    | --     | --     | --     |
| Estimating                 | -3.0  | -122.4 | --     | -125.4 |
| Other                      | --    | --     | --     | --     |
| Support                    | --    | --     | --     | --     |
| Subtotal                   | -3.0  | -122.4 | --     | -125.4 |
| Total Changes              | -4.6  | -580.1 | --     | -584.7 |
| CE - Cost Variance         | 54.5  | 2075.9 | --     | 2130.4 |
| CE - Cost & Funding        | 54.5  | 2075.9 | --     | 2130.4 |

Previous Estimate: December 2012

| <b>RDT&amp;E</b>  | <b>\$M</b>       |                  |
|---|------------------|------------------|
|   | <b>Base Year</b> | <b>Then Year</b> |
| <b>Current Change Explanations</b>                                |                  |                  |
| Revised escalation indices. (Economic)                            | N/A              | -0.7             |
| Reduced estimate to reflect prior year actuals. (Estimating)      | -3.5             | -4.5             |
| Adjustment for current and prior escalation. (Estimating)         | +0.3             | +0.4             |
| Inflation impact allocated to other program efforts. (Estimating) | +0.2             | +0.3             |
| RDT&E Subtotal  | -3.0             | -4.5             |

| <b>Procurement</b>  | <b>\$M</b>       |                  |
|---|------------------|------------------|
|   | <b>Base Year</b> | <b>Then Year</b> |
| <b>Current Change Explanations</b>  |                  |                  |
| Revised escalation indices. (Economic)  | N/A              | -21.8            |
| Reduced estimate to reflect prior/current year congressional reductions. (Estimating)   | -63.3            | -81.0            |
| Reduced estimate to reflect program efficiencies for AEHF 5-6 production and launch operations; savings applied to higher Air Force needs. (Estimating) | -114.0           | -153.9           |
| Revised estimate to reallocate program support between subprograms to better align with program requirements. (Estimating)                              | +45.1            | +62.1            |
| Revised estimate to rephase funding between subprograms to align with AEHF 4 launch operation requirements. (Estimating)                                | +1.2             | 0.0              |
| Adjustment for current and prior escalation. (Estimating)   | +8.6             | +11.0            |
| Procurement Subtotal  | -122.4           | -183.6           |

## Contracts

### Appropriation: Procurement

|                       |                          |
|-----------------------|--------------------------|
| Contract Name         | <b>SDD Contract</b>      |
| Contractor            | Lockheed Martin Corp.    |
| Contractor Location   | Sunnyvale, CA 94089      |
| Contract Number, Type | F04701-02-C-0002/1, CPAF |
| Award Date            | November 16, 2001        |
| Definitization Date   | August 15, 2002          |

| Initial Contract Price (\$M) |         |     | Current Contract Price (\$M) |         |     | Estimated Price at Completion (\$M) |                 |
|------------------------------|---------|-----|------------------------------|---------|-----|-------------------------------------|-----------------|
| Target                       | Ceiling | Qty | Target                       | Ceiling | Qty | Contractor                          | Program Manager |
| 573.7                        | N/A     | 1   | 1024.1                       | N/A     | 1   | 1182.5                              | 1127.7          |

### Target Price Change Explanation

The difference between the Initial Contract Price Target and the Current Contract Price Target is due to contract modifications for AEHF 3 launch operations, additional thermal vacuum testing, an overrun on AEHF 3, addition of AEHF 4 Long Lead parts and various other Engineering Change Proposals.

| Variance                                 | Cost Variance | Schedule Variance |
|--|---------------|-------------------|
| Cumulative Variances To Date (1/26/2014) | +100.9        | +1.9              |
| Previous Cumulative Variances            | +78.6         | -0.6              |
| Net Change                               | +22.3         | +2.5              |

### Cost and Schedule Variance Explanations

The favorable net change in the cost variance is due to efficiencies in assembly, integration and test and system engineering and program management.

The favorable net change in the schedule variance is due to is due to performing ahead of schedule during orbit raising.

### Contract Comments

This contract is more than 90% complete; therefore, this is the final report for this contract.

This contract page was reported as contract F04701-02-C-0002, effort #2 in the Dec 2012 SAR. A new contract page was created in order to update the effort number to align with contractor reporting. In addition, the AEHF 4 Long Lead was added to this contract page to reconcile with contractor reporting. In the Dec 2012 SAR, AEHF 4 Long Lead was rolled into contract F04701-02-C-0002, effort #3 which also included AEHF 4 production.

This contract is for AEHF 3 and AEHF 4 Long Lead.

**Appropriation: Procurement**

Contract Name **AEHF 4 Production and Launch, 5/6 Long Lead, KI-54**  
 Contractor Lockheed Martin Corp.  
 Contractor Location Sunnyvale, CA 94089  
 Contract Number, Type F04701-02-C-0002/2, CPIF  
 Award Date November 16, 2001  
 Definitization Date August 15, 2002

| Initial Contract Price (\$M) |         |     | Current Contract Price (\$M) |         |     | Estimated Price at Completion (\$M) |                 |
|------------------------------|---------|-----|------------------------------|---------|-----|-------------------------------------|-----------------|
| Target                       | Ceiling | Qty | Target                       | Ceiling | Qty | Contractor                          | Program Manager |
| 1396.5                       | N/A     | 1   | 1598.7                       | N/A     | 1   | 1610.8                              | 1598.7          |

**Target Price Change Explanation**

The difference between the Initial Contract Price Target and the Current Contract Price Target is due to contract modifications for AEHF 5-6 Long Lead, KI-54D cryptographic device and X37 integration and analysis.

| Variance                                 | Cost Variance | Schedule Variance |
|--|---------------|-------------------|
| Cumulative Variances To Date (1/26/2013) | +26.0         | -3.6              |
| Previous Cumulative Variances            | +15.1         | -5.4              |
| Net Change                               | +10.9         | +1.8              |

**Cost and Schedule Variance Explanations**

The favorable net change in the cost variance is due to the transfer of AEHF 5/6 proposal preparation cost from AEHF 4 to the AEHF 5/6 contract.

The favorable net change in the schedule variance is due to schedule recovery on AEHF 4 payload activities.

**Contract Comments**

This contract page was reported as contract F04701-02-C-0002, effort #3 in the Dec 2012 SAR. The contract page for F04701-02-C-0002, effort #2 has been updated to reflect AEHF 4, AEHF 5/6 Long Lead, KI-54D and X37 in order to align with contractor reporting. In addition, the AEHF 4 Long Lead was removed from this contract page and added to F04701-02-C-0002, effort #1 in order to align with contractor reporting. In the Dec 2012 SAR, AEHF 4 Long Lead was combined with the AEHF 4 production contract page which was not reflective of contractor reporting.

**Appropriation: Procurement**

Contract Name **AHEF 5/6 Long Lead Firm Fixed Price**  
 Contractor Lockheed Martin Corp.  
 Contractor Location 1111 Lockheed Martin Way  
 Sunnyvale, CA 94089  
 Contract Number, Type F04701-02-C-0002/3, FFP  
 Award Date November 16, 2001  
 Definitization Date August 15, 2002

| Initial Contract Price (\$M) |         |     | Current Contract Price (\$M) |         |     | Estimated Price at Completion (\$M) |                 |
|------------------------------|---------|-----|------------------------------|---------|-----|-------------------------------------|-----------------|
| Target                       | Ceiling | Qty | Target                       | Ceiling | Qty | Contractor                          | Program Manager |
| 193.6                        | N/A     | N/A | 193.6                        | N/A     | N/A | 193.6                               | 193.6           |

**Cost and Schedule Variance Explanations**

Cost and Schedule Variance reporting is not required on this FFP contract.

**Contract Comments**

This is the first time this contract is being reported.

This contract page now reflects the Firm Fixed Price (FFP) portion of AEHF 5/6 Long Lead Parts. The Cost Plus Incentive Fee (CPIF) portion of the AEHF 5/6 Long Lead Parts is captured under F04701-02-C-0002, effort #2 and is reported in the contractor CPRs. In the Dec 2012 SAR, F04701-02-C-0002, effort #3 reflected AEHF 4 Long Lead, AEHF 4 Production, CPIF portion of AEHF 5/6 Long Lead, and KI-54. This effort is now part of F04701-02-C-0002, effort #1 and #2.

**Appropriation: Procurement**

Contract Name **AEHF 5/6 Production and Launch**  
 Contractor Lockheed Martin Corp.  
 Contractor Location 1111 Lockheed Martin Way  
 Sunnyvale, CA 94089  
 Contract Number, Type FA8808-12-C-0010/1, FPIF  
 Award Date May 15, 2012  
 Definitization Date October 31, 2013

| Initial Contract Price (\$M) |         |     | Current Contract Price (\$M) |         |     | Estimated Price at Completion (\$M) |                 |
|------------------------------|---------|-----|------------------------------|---------|-----|-------------------------------------|-----------------|
| Target                       | Ceiling | Qty | Target                       | Ceiling | Qty | Contractor                          | Program Manager |
| 1914.4                       | 2001.6  | 2   | 1914.4                       | 2001.6  | 2   | 1914.4                              | 1914.4          |

| Variance                                 | Cost Variance | Schedule Variance |
|--|---------------|-------------------|
| Cumulative Variances To Date (1/26/2014) | +21.2         | +9.2              |
| Previous Cumulative Variances            | --            | --                |
| Net Change                               | +21.2         | +9.2              |

**Cost and Schedule Variance Explanations**

The favorable cumulative cost variance is due to payload manufacturing batch efficiencies, staffing efficiencies and resource sharing across all AEHF programs.

The favorable cumulative schedule variance is due to early starts/completions of bus activities in Telemetry, Tracking & Command, Electrical Power, Structures and Mechanisms and Attitude Control.

**Contract Comments**

This is the first time this contract is being reported.

This contract is for AEHF 5/6 Production.

## Deliveries and Expenditures

### AEHF SV 1-4

| Delivered to Date                | Plan to Date | Actual to Date | Total Quantity | Percent Delivered |
|----------------------------------|--------------|----------------|----------------|-------------------|
| Development                      |              | 2              | 2              | 100.00%           |
| Production                       |              | 1              | 2              | 50.00%            |
| Total Program Quantity Delivered |              | 3              | 4              | 75.00%            |

#### Expended and Appropriated (TY \$M)

|                        |         |                            |        |
|------------------------|---------|----------------------------|--------|
| Total Acquisition Cost | 10371.4 | Years Appropriated         | 20     |
| Expended to Date       | 8683.2  | Percent Years Appropriated | 86.96% |
| Percent Expended       | 83.72%  | Appropriated to Date       | 9903.3 |
| Total Funding Years    | 23      | Percent Appropriated       | 95.49% |

The above data is current as of 3/20/2014.

### AEHF SV 5-6

| Delivered to Date                | Plan to Date | Actual to Date | Total Quantity | Percent Delivered |
|----------------------------------|--------------|----------------|----------------|-------------------|
| Development                      |              | 0              | 0              | --                |
| Production                       |              | 0              | 2              | 0.00%             |
| Total Program Quantity Delivered |              | 0              | 2              | 0.00%             |

#### Expended and Appropriated (TY \$M)

|                        |        |                            |        |
|------------------------|--------|----------------------------|--------|
| Total Acquisition Cost | 2789.7 | Years Appropriated         | 4      |
| Expended to Date       | 597.4  | Percent Years Appropriated | 36.36% |
| Percent Expended       | 21.41% | Appropriated to Date       | 1534.0 |
| Total Funding Years    | 11     | Percent Appropriated       | 54.99% |

The above data is current as of 3/20/2014.

## Operating and Support Cost

### AEHF SV 1-4

#### Assumptions and Ground Rules

##### Cost Estimate Reference:

The December 2011 O&S program office estimate included AEHF SV 1-6 through FY 2030.

The Financial Management Procedures Document provides the specific details of the transfer of funds from the Ministry of Defence, Secretary of State for Defence of the United Kingdom of Great Britain and Northern Ireland, Minister of Defence, of the Kingdom of The Netherlands and Department of National Defence of Canada to the DoD in accordance with paragraph 5.2 of the Memorandum of Understanding between the Secretary of Defense on behalf of the DoD of the United States of America and the aforementioned Departments concerning O&S of Advanced EHF Military Satellite Communications (MILSATCOM).

##### Sustainment Strategy:

The O&S costs support a four satellite constellation from FY 2015 through FY 2030. The estimates assume that AEHF and Milstar will be operated in parallel by the 4th Space Operations Squadron at Schriever Air Force Base. The Military Satellite Communications (MILSATCOM) Directorate is working to develop a new sustainment contract to consolidate Protected Satellite Communications activities for AEHF and Milstar satellite systems.

##### Antecedent Information:

The Milstar cost estimate is based on validated requirements in the Air Force Space Command Logistics Support Requirements Brochures built for the FY 2004 President's Budget Request. The Milstar O&S costs cover all operational activities for both the space segment (5 satellites) and ground segment for FY 2009 - FY 2018.

These estimates were finalized April 15, 2003 with Air Force Space Command's budget request to Headquarters Air Force.

| Unitized O&S Costs BY2002 \$M  |   |   |
|--------------------------------|---|---|
| Cost Element                   | AEHF SV 1-4<br>Annual Average Cost for AEHF<br>System | Milstar (Antecedent)<br>Annual Average for System |
| Unit-Level Manpower            | 19.420  | 16.900  |
| Unit Operations                | 0.053   | 13.200  |
| Maintenance                    | 14.294  | 3.900   |
| Sustaining Support             | 54.956  | 39.000  |
| Continuing System Improvements | 34.611  | 0.000   |
| Indirect Support               | 3.220   | 7.200   |
| Other                          | 0.000   | 0.000   |
| <b>Total</b>                   | <b>126.554</b>  | <b>80.200</b>                                     |

##### Unitized Cost Comments:

AEHF Annual Average for Constellation numbers above reflect costs for planning usage and monitoring health of the AEHF constellation. The formula used to generate the average annual cost:  
 $(\text{AEHF SV 1-4 O\&S Cost} + \text{AEHF SV 5-6 O\&S cost}) / 16 \text{ years}$

|                  | Total O&S Cost \$M                         |        |                  |                      |
|------------------|--|--------|------------------|----------------------|
|                  | Current Production APB Objective/Threshold |        | Current Estimate |                      |
|                  | AEHF SV 1-4                                |        | AEHF SV 1-4      | Milstar (Antecedent) |
| <b>Base Year</b> | 1143.6                                     | 1258.0 | 1143.6           | 801.5                |
| <b>Then Year</b> | 1593.6                                     | N/A    | 1593.6           | 899.8                |

Total O&S Costs Comments:

No change in total AEHF O&S costs from previous December 2012 AEHF SAR.

The MILSATCOM Directorate will develop a new cost model in FY 2014 to include updating total O&S costs. O&S costs data were gathered by a Tiger Team whose efforts were to consolidate both Protected Satellite Communications contract activities for AEHF and legacy Milstar satellite systems.

**Disposal Costs:**

Disposal costs are not included in the above estimate. The disposal estimate is to be determined.

**AEHF SV 5-6****Assumptions and Ground Rules**Cost Estimate Reference:

The December 2011 O&S program office estimate included AEHF SV 1-6 through FY 2030.

The Financial Management Procedures Document provides the specific details of the transfer of funds from the Ministry of Defence, Secretary of State for Defence of the United Kingdom of Great Britain and Northern Ireland, Minister of Defence, of the Kingdom of The Netherlands and Department of National Defence of Canada to the DoD in accordance with paragraph 5.2 of the Memorandum of Understanding between the Secretary of Defense on behalf of the DoD of the United States of America and the aforementioned Departments concerning O&S of Advanced EHF Military Satellite Communications (MILSATCOM).

Sustainment Strategy:

The O&S costs support a four satellite constellation from FY 2015 through FY 2030. The estimates assume that AEHF and Milstar will be operated in parallel by the 4th Space Operations Squadron at Schriever Air Force Base. The Military Satellite Communications (MILSATCOM) Directorate is working to develop new sustainment contract to consolidate Protected Satellite Communications activities for AEHF and Milstar satellite systems.

Antecedent Information:

The Milstar cost estimate is based on validated requirements in the Air Force Space Command Logistics Support Requirements Brochures built for the FY 2004 President's Budget Request. The Milstar O&S costs cover all operational activities for both the space segment (5 satellites) and ground segment for FY 2009 - FY 2018.

These estimates were finalized April 15, 2003 with Air Force Space Command's budget request to Headquarters Air Force.

| <b>Unitized O&amp;S Costs BY2002 \$M</b> |  |   |
|--|--|---|
| <b>Cost Element</b>                      | <b>AEHF SV 5-6<br/>Annual Average Cost for AEHF<br/>System</b> | <b>Milstar (Antecedent)<br/>Annual Average for System</b> |
| Unit-Level Manpower                      | 19.420   | 16.900  |
| Unit Operations                          | 0.053  | 13.200  |
| Maintenance                              | 14.294   | 3.900   |
| Sustaining Support                       | 54.956   | 39.000  |
| Continuing System Improvements           | 34.611   | 0.000   |
| Indirect Support                         | 3.220  | 7.200   |
| Other                                    | 0.000  | 0.000   |
| <b>Total</b>                             | <b>126.554</b>   | <b>80.200</b>   |

Unitized Cost Comments:

AEHF Annual Average for Constellation numbers above reflect costs for planning usage and monitoring health of the AEHF constellation. The formula used to generate the average annual cost:  
 $(\text{AEHF SV 1-4 O\&S Cost} + \text{AEHF SV 5-6 O\&S cost}) / 16 \text{ years}$

|                  | Total O&S Cost \$M                         |       |                  |                      |
|------------------|--|-------|------------------|----------------------|
|                  | Current Production APB Objective/Threshold |       | Current Estimate |                      |
|                  | AEHF SV 5-6                                |       | AEHF SV 5-6      | Milstar (Antecedent) |
| <b>Base Year</b> | 881.3                                      | 969.4 | 881.3            | 801.5                |
| <b>Then Year</b> | 1453.8                                     | N/A   | 1453.8           | 899.8                |

Total O&S Costs Comments:

No change in total AEHF O&S costs from previous December 2011 AEHF SAR. New report format required breakout of AEHF SV 1-4 and AEHF SV 5-6 costs for comparison to APB Objective/Threshold values.

The MILSATCOM Directorate will develop a new cost model in FY 2014 to include updating total O&S costs. O&S costs data were gathered by a Tiger Team whose efforts were to consolidate both Protected Satellite Communications contract activities for AEHF and legacy Milstar satellite systems.

**Disposal Costs:**

Disposal costs are not included in the above estimate. The disposal estimate is to be determined.