

UNCLASSIFIED

PE NUMBER: 0603423F

PE TITLE: Global Positioning System III - Operational Control Segment

| | |
|---|-------------------------|
| Exhibit R-2, RDT&E Budget Item Justification | DATE May 2009 |
|---|-------------------------|

| | |
|---|---|
| BUDGET ACTIVITY 04 Advanced Component Development and Prototypes (ACD&P) | PE NUMBER AND TITLE 0603423F Global Positioning System III - Operational Control Segment |
|---|---|

| Cost (\$ in Millions) | FY 2008 Actual | FY 2009 Estimate | FY 2010 Estimate | FY 2011 Estimate | FY 2012 Estimate | FY 2013 Estimate | FY 2014 Estimate | FY 2015 Estimate | Cost to Complete | Total |
|---------------------------------|-------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|-------|
| Total Program Element (PE) Cost | 0.000 | 306.502 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| A021 GPS III OCX | 0.000 | 306.502 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |

(U) A. Mission Description and Budget Item Justification

The Global Positioning System (GPS) is a space based position, navigation and time (PNT) distribution system. This Program element funds the Research and Development (R&D) for the next generation GPS control segment (OCX). This includes, but is not limited to, advanced concept development, systems engineering and analysis, modernized control segment development, training simulators, Integrated Logistics Support (ILS) products, and developmental test resources. The OCX acquisition was established to 1) fly the GPS III satellites, 2) incorporate situational awareness to support Navwar and signal monitoring, and 3) enable mission capability upgrades to support warfighter effect based operations.

Funds will support engineering studies and analyses, architectural engineering studies, trade studies, technology needs forecasting, systems engineering, system development, test and evaluation efforts and mission operations in support of upgrades and product improvements for military and civil applications necessary to support efforts to protect U.S. military and allies' use of GPS. Additionally, funds will ensure a disciplined Capability Insertion Program plan to meet Joint Requirements Oversight Council (JROC) approved required capabilities. Funds will support science and technology, technology development and systems development efforts.

Beginning in FY10, OCX funding will be combined under the GPS III PE, 0305265F, and reside in a separate Budget Program Activity Code (BPAC) from the Space Vehicle development funding.

This program is Budget Activity 4 - Advanced Component Development and Prototypes because it is in Phase A (Concept Development).

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

| | <u>FY 2008</u> | <u>FY 2009</u> | <u>FY 2010</u> |
|--------------------------------------|----------------|----------------|----------------|
| (U) Previous President's Budget | 0.000 | 2.975 | 236.734 |
| (U) Current PBR/President's Budget | 0.000 | 306.502 | 0.000 |
| (U) Total Adjustments | 0.000 | 303.527 | |
| (U) Congressional Program Reductions | | -0.833 | |
| Congressional Rescissions | | | |
| Congressional Increases | | 304.360 | |
| Reprogrammings | | | |
| SBIR/STTR Transfer | | | |

(U) Significant Program Changes:

OCX funding transferred to PE 0305265F beginning in FY10. -\$0.833M in FY09 for Congressional General Reductions. \$304.360M transferred by Congress from PE

Exhibit R-2, RDT&E Budget Item Justification

DATE

May 2009

BUDGET ACTIVITY

04 Advanced Component Development and Prototypes (ACD&P)

PE NUMBER AND TITLE

0603423F Global Positioning System III - Operational Control Segment

0603427F to consolidate OCX efforts in FY09.

Exhibit R-2a, RDT&E Project Justification

DATE
May 2009

| | | | | | | | | | | |
|--|-------------------|---------------------|---------------------|---------------------|---------------------|---------------------|--|---------------------|---|-------|
| BUDGET ACTIVITY 04 Advanced Component Development and Prototypes (ACD&P) | | | | | | | PE NUMBER AND TITLE 0603423F Global Positioning System III - Operational Control Segment | | PROJECT NUMBER AND TITLE A021 GPS III OCX | |
| Cost (\$ in Millions) | FY 2008 Actual | FY 2009 Estimate | FY 2010 Estimate | FY 2011 Estimate | FY 2012 Estimate | FY 2013 Estimate | FY 2014 Estimate | FY 2015 Estimate | Cost to Complete | Total |
| A021 GPS III OCX | 0.000 | 306.502 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Quantity of RDT&E Articles | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | |

(U) A. Mission Description and Budget Item Justification

The Global Positioning System (GPS) is a space based position, navigation and time (PNT) distribution system. This Program element funds the Research and Development (R&D) for the next generation GPS control segment (OCX). This includes, but is not limited to, advanced concept development, systems engineering and analysis, modernized control segment development, training simulators, Integrated Logistics Support (ILS) products, and developmental test resources. The OCX acquisition was established to 1) fly the GPS III satellites, 2) incorporate situational awareness to support Navwar and signal monitoring, and 3) enable mission capability upgrades to support warfighter effect based operations.

Funds will support engineering studies and analyses, architectural engineering studies, trade studies, technology needs forecasting, systems engineering, system development, test and evaluation efforts and mission operations in support of upgrades and product improvements for military and civil applications necessary to support efforts to protect U.S. military and allies' use of GPS. Additionally, funds will ensure a disciplined Capability Insertion Program plan to meet Joint Requirements Oversight Council (JROC) approved required capabilities. Funds will support science and technology, technology development and systems development efforts.

Beginning in FY10, OCX funding will be combined under the GPS III PE, 0305265F, and reside in a separate Budget Program Activity Code (BPAC) from the Space Vehicle development funding.

This program is Budget Activity 4 - Advanced Component Development and Prototypes because it is in Phase A (Concept Development).

(U) B. Accomplishments/Planned Program (\$ in Millions)

| | <u>FY 2008</u> | <u>FY 2009</u> | <u>FY 2010</u> |
|---|----------------|----------------|----------------|
| (U) OCX Development | 0.000 | 228.045 | 0.000 |
| (U) System Engineering & Integration (SE&I) | 0.000 | 4.644 | 0.000 |
| (U) Program Support | 0.000 | 73.813 | 0.000 |
| (U) Total Cost | 0.000 | 306.502 | 0.000 |

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

| | <u>FY 2008</u> | <u>FY 2009</u> | <u>FY 2010</u> | <u>FY 2011</u> | <u>FY 2012</u> | <u>FY 2013</u> | <u>FY 2014</u> | <u>FY 2015</u> | <u>Cost to</u> | <u>Total Cost</u> |
|---|----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-------------------|
| | <u>Actual</u> | <u>Estimate</u> | <u>Complete</u> | |
| (U) AF RDT&E | | | | | | | | | | |
| (U) PE 0603421F Global Positioning System (Project 644993; BA-04; R-38) | 446.197 | 0.000 | 0.000 | | | | | | | 446.197 |

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| Exhibit R-2a, RDT&E Project Justification | DATE May 2009 |
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| | | |
|---|---|--|
| BUDGET ACTIVITY 04 Advanced Component Development and Prototypes (ACD&P) | PE NUMBER AND TITLE 0603423F Global Positioning System III - Operational Control Segment | PROJECT NUMBER AND TITLE A021 GPS III OCX |
|---|---|--|

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

| | | | | | |
|--|-------|---------|---------|--|-----|
| (U) PE 0305265F GPS III Space Segment (Project 67A019; BA-07; R-197) | 0.000 | 392.276 | 425.634 | | TBD |
| (U) PE 0305265F OCX (Project 67A019; BA-07; R-xxx) | 0.000 | 0.000 | 389.948 | | TBD |
| (U) Other APPN | | | | | |
| (U) Missile Procurement: PE 0305265F, BA 5, P-XX | 0.000 | 0.000 | 0.000 | | TBD |
| (U) Other Procurement: PE 0305265F, BP 83, WSC 836730, P-71 | 0.000 | 0.000 | 0.000 | | TBD |

(U) D. Acquisition Strategy

The Air Force is pursuing a "Block" approach to the next generation GPS control segment (OCX) to rapidly respond to warfighter capability requirements. The Block acquisition approach follows the "Back to Basics" space program acquisition philosophy which focuses on mitigating cost and schedule risk through a lower risk incremental delivery of mature technologies. This approach focuses on mission success and on time delivery.

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Exhibit R-3, RDT&E Project Cost Analysis

DATE

May 2009

| BUDGET ACTIVITY | | | | PE NUMBER AND TITLE | | | | | PROJECT NUMBER AND TITLE | | | |
|---|---|--------------------------------------|--------------------------------------|---|--------------------------|-----------------|--------------------------|-----------------|--------------------------|---------------------|------------|-----------------------------|
| 04 Advanced Component Development and Prototypes (ACD&P) | | | | 0603423F Global Positioning System III - Operational Control Segment | | | | | A021 GPS III OCX | | | |
| (U) Cost Categories (Tailor to WBS, or System/Item Requirements) (\$ in Millions) | Contract Method & Type | Performing Activity & Location | Total Prior to FY 2008 Cost | FY 2008 Cost | FY 2008 Award Date | FY 2009 Cost | FY 2009 Award Date | FY 2010 Cost | FY 2010 Award Date | Cost to Complete | Total Cost | Target Value of Contract |
| (U) <u>Product Development</u> | | | | | | | | | | | | |
| Phase A OCX Development | CPFF | Northrop Grumman, Carson, CA | 0.000 | 0.000 | | 114.022 | Nov-08 | 0.000 | | 0.000 | 114.022 | |
| Phase A OCX Development | CPDD | Raytheon, Aurora, CO | 0.000 | 0.000 | | 114.022 | Nov-08 | 0.000 | | 0.000 | 114.022 | |
| SE&I | CPAF | SAIC, Huntington Beach, CA | 0.000 | 0.000 | | 4.644 | Nov-08 | 0.000 | | 0.000 | 4.644 | |
| Modernization/SE & Technical Support | Various | Various | 0.000 | 0.000 | | 21.496 | Nov-08 | 0.000 | | 0.000 | 21.496 | |
| Subtotal Product Development | | | 0.000 | 0.000 | | 254.184 | | 0.000 | | 0.000 | 254.184 | 0.000 |
| Remarks: | Funding transferred to PE 0305265F starting in FY10 | | | | | | | | | | | |
| (U) <u>Support</u> | | | | | | | | | | | | |
| Wing Support | Various | Various | 0.000 | 0.000 | | 52.318 | Nov-08 | 0.000 | | 0.000 | 52.318 | |
| Subtotal Support | | | 0.000 | 0.000 | | 52.318 | | 0.000 | | 0.000 | 52.318 | 0.000 |
| Remarks: | Funding transferred to PE 0305265F starting in FY10 | | | | | | | | | | | |
| (U) <u>Test & Evaluation</u> | | | | | | | | | | | | |
| Subtotal Test & Evaluation | | | 0.000 | 0.000 | | 0.000 | | 0.000 | | 0.000 | 0.000 | 0.000 |
| Remarks: | | | | | | | | | | | | |
| (U) <u>Management</u> | | | | | | | | | | | | |
| Subtotal Management | | | 0.000 | 0.000 | | 0.000 | | 0.000 | | 0.000 | 0.000 | 0.000 |
| Remarks: | | | | | | | | | | | | |
| (U) Total Cost | | | 0.000 | 0.000 | | 306.502 | | 0.000 | | 0.000 | 306.502 | 0.000 |

Exhibit R-4, RDT&E Schedule Profile

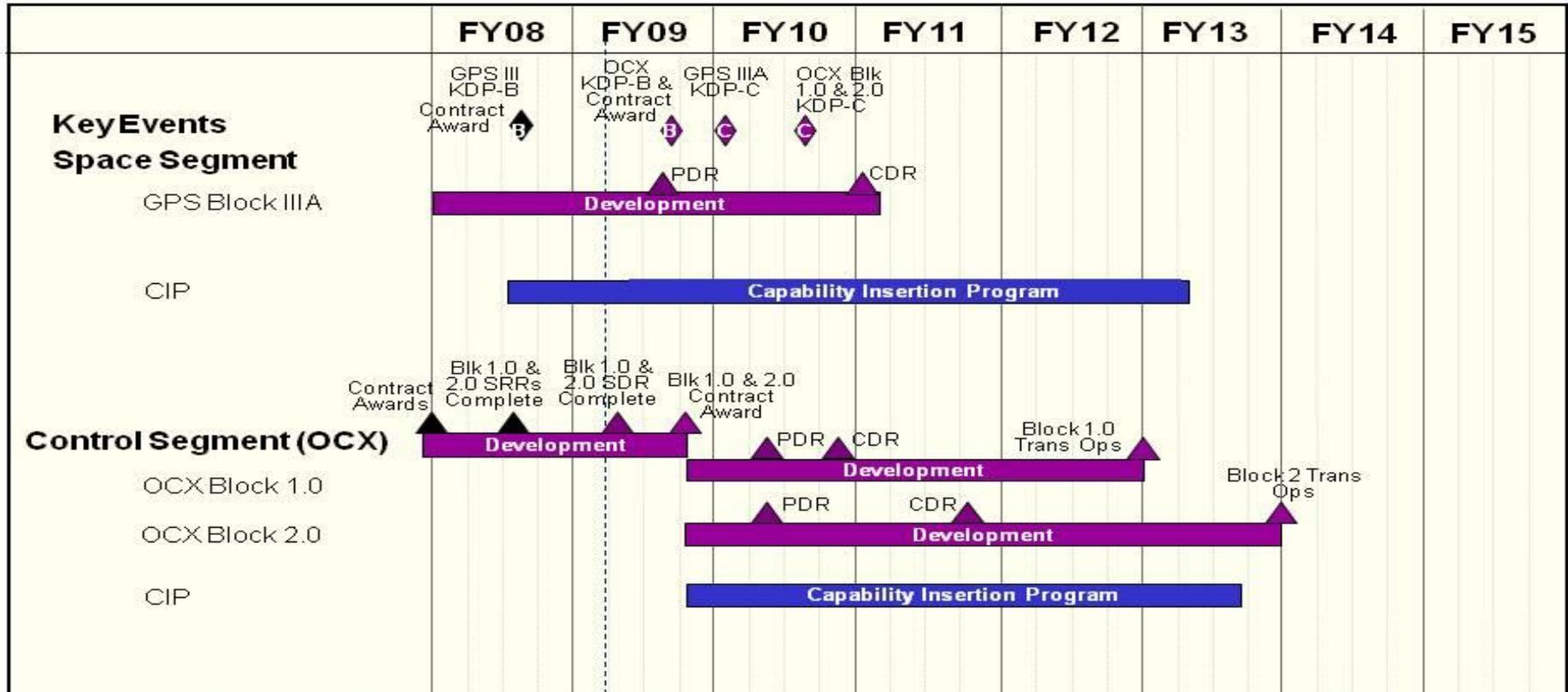
DATE

May 2009

BUDGET ACTIVITY
04 Advanced Component Development and Prototypes (ACD&P)

PE NUMBER AND TITLE
0603423F Global Positioning System
III - Operational Control Segment

PROJECT NUMBER AND TITLE
A021 GPS III OCX



CDR – Critical Design Review
CIP – Capability Insertion Program
PDR: Preliminary Design Review
SRR: System Requirements Review
SDR: System Design Review

Exhibit R-4a, RDT&E Schedule Detail

DATE

May 2009

BUDGET ACTIVITY

04 Advanced Component Development and Prototypes (ACD&P)

PE NUMBER AND TITLE

0603423F Global Positioning System
III - Operational Control Segment

PROJECT NUMBER AND TITLE

A021 GPS III OCX

(U) Schedule Profile

FY 2008

FY 2009

FY 2010

(U) OCX System Design Review (SDR)

2Q

(U) Key Decision Point (KDP)-B

3Q

(U) Begin OCX Block II Development

3Q

UNCLASSIFIED
TERMINATION OF INVESTMENT-RELATED PROGRAMS
FY 2010 President's Budget
(Dollars in Millions)

| PE | BPAC | APPN | FY 2008 | | FY 2009 | | FY 2010 | | FY 2011 | | FY 2012 | | FY 2013 | | FY 2014 | | FY 2015 | |
|----------|--------|------|---------|-----|---------|-----|---------|-----|---------|-----|---------|-----|---------|-----|---------|-----|---------|-----|
| | | | COST | QTY |
| 0603423F | 64A021 | 3600 | 0.000 | | 306.502 | | 0.000 | | 0.000 | | 0.000 | | 0.000 | | 0.000 | | 0.000 | |

Effort Title

Global Positioning System III - Operational Control Segment

Program Description

The Global Positioning System (GPS) is a space based position, navigation and time (PNT) distribution system. This Program element funds the Research and Development (R&D) for the next generation GPS control segment (OCX). This includes, but is not limited to, advanced concept development, systems engineering and analysis, modernized control segment development, training simulators, Integrated Logistics Support (ILS) products, and developmental test resources. The OCX acquisition was established to 1) fly the GPS III satellites, 2) incorporate the GPS Operations Center (GPSOC) functionality into the GPS Control Segment and 3) enable mission capability upgrades to support warfighter effect based operations.

Status to Date

Program is funded in this PE in FY09.

Rationale for

Termination

Beginning in FY10, OCX funding will be combined under the GPS III PE, 0305265F, and reside in a separate Budget Program Activity Code (BPAC) from the Space Vehicle development funding.

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