

UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Missile Defense Agency **DATE:** April 2013

| | |
|---|--|
| APPROPRIATION/BUDGET ACTIVITY 0400: <i>Research, Development, Test & Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i> | R-1 ITEM NOMENCLATURE PE 0604886C: <i>Advanced Remote Sensor Technology (ARST)</i> |
|---|--|

| COST (\$ in Millions) | All Prior Years | FY 2012 | FY 2013 [#] | FY 2014 Base | FY 2014 OCO ^{##} | FY 2014 Total | FY 2015 | FY 2016 | FY 2017 | FY 2018 | Cost To Complete | Total Cost |
|--|-----------------|---------|----------------------|--------------|---------------------------|---------------|---------|---------|---------|---------|------------------|------------|
| Total Program Element | - | 0.000 | 58.742 | 0.000 | - | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 58.742 |
| MD95: <i>Advanced Remote Sensor Technology</i> | - | 0.000 | 55.760 | 0.000 | - | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 55.760 |
| MD40: <i>Program-Wide Support</i> | - | 0.000 | 2.982 | 0.000 | - | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 2.982 |

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 OCO Request will be submitted at a later date

Note

Advanced Remote Sensor Technology was a new Program Element in FY 2013. The Missile Defense Agency (MDA) realigned funds from the Advanced Remote Sensor Technology (ARST) Program Element (PE 0604886C) into the BMD Technology PE (06030175C) to properly align funding and content with the correct Science and Technology Budget Activity (BA), Advanced Technology Development (ATD) (BA03). The internal realignment of ARST funds into the BMD Technology Program will also leverage technology interdependencies and gain oversight efficiencies.

A. Mission Description and Budget Item Justification

The Missile Defense Agency (MDA) is conducting an enhanced discrimination technology demonstration program that will use a wide range of advanced remote sensor technologies and techniques. The goals for enhanced discrimination are to improve the probability of engagement success for stressing threats, expand the Ballistic Missile Defense (BMD) battle space, and increase the ability to negate larger raid sizes. System modeling indicates geographically and spectrally-diverse advanced sensors will improve global persistent tracking and the ability to discriminate by up to an order of magnitude. These improvements increase all weapon systems performance for regional and homeland defense. The advanced remote sensor technology is applicable to space or very-high-altitude basing.

Starting in FY 2014, content previously planned in the Advanced Remote Sensor Technology PE is captured in the BMD Technology PE (0603175C), Project MD25. This content includes maturing emerging advanced detectors, focal planes, and algorithms.

MD40 Program-Wide Support (PWS) consists of essential non-headquarters management costs in support of the MDA functions and activities across the entire Ballistic Missile Defense System (BMDS).

UNCLASSIFIED

| | |
|---|-------------------------|
| Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Missile Defense Agency | DATE: April 2013 |
|---|-------------------------|

| | |
|---|--|
| APPROPRIATION/BUDGET ACTIVITY 0400: <i>Research, Development, Test & Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i> | R-1 ITEM NOMENCLATURE PE 0604886C: <i>Advanced Remote Sensor Technology (ARST)</i> |
|---|--|

| B. Program Change Summary (\$ in Millions) | FY 2012 | FY 2013 | FY 2014 Base | FY 2014 OCO | FY 2014 Total |
|---|----------------|----------------|---------------------|--------------------|----------------------|
| Previous President's Budget | 0.000 | 58.742 | 35.159 | - | 35.159 |
| Current President's Budget | 0.000 | 58.742 | 0.000 | - | 0.000 |
| Total Adjustments | 0.000 | 0.000 | -35.159 | - | -35.159 |
| • Congressional General Reductions | 0.000 | 0.000 | | | |
| • Congressional Directed Reductions | 0.000 | 0.000 | | | |
| • Congressional Rescissions | 0.000 | 0.000 | | | |
| • Congressional Adds | 0.000 | 0.000 | | | |
| • Congressional Directed Transfers | 0.000 | 0.000 | | | |
| • Reprogrammings | 0.000 | 0.000 | | | |
| • SBIR/STTR Transfer | 0.000 | 0.000 | | | |
| • Other Adjustment | 0.000 | 0.000 | -35.159 | - | -35.159 |

Change Summary Explanation

FY 2014 funding was transferred to the BMD Technology (0603175C) Program Element.

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2014 Missile Defense Agency **DATE:** April 2013

| | | |
|---|--|--|
| APPROPRIATION/BUDGET ACTIVITY 0400: <i>Research, Development, Test & Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i> | R-1 ITEM NOMENCLATURE PE 0604886C: <i>Advanced Remote Sensor Technology (ARST)</i> | PROJECT MD95: <i>Advanced Remote Sensor Technology</i> |
|---|--|--|

| COST (\$ in Millions) | All Prior Years | FY 2012 | FY 2013 [#] | FY 2014 Base | FY 2014 OCO ^{##} | FY 2014 Total | FY 2015 | FY 2016 | FY 2017 | FY 2018 | Cost To Complete | Total Cost |
|--|-----------------|---------|----------------------|--------------|---------------------------|---------------|---------|---------|---------|---------|------------------|------------|
| MD95: <i>Advanced Remote Sensor Technology</i> | - | 0.000 | 55.760 | 0.000 | - | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 55.760 |
| Quantity of RDT&E Articles | | 0 | 0 | 0 | | 0 | 0 | 0 | 0 | 0 | | |

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 OCO Request will be submitted at a later date

Note

N/A

A. Mission Description and Budget Item Justification

Starting in FY 2014, the content planned in the Advanced Remote Sensor Technology (ARST) program will transition to the BMD Technology PE (0603175C). This content includes maturing emerging advanced detectors, focal planes, and algorithms.

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)

| | FY 2012 | FY 2013 | FY 2014 |
|--|---------|---------|---------|
| Title: Advanced Remote Sensor Technology | 0.000 | 55.760 | 0.000 |
| Articles: | 0 | 0 | 0 |
| Description: N/A | | | |
| FY 2012 Accomplishments: N/A | | | |
| FY 2013 Plans: - Complete advanced sensor data mining - Develop advanced sensor technology - Develop advanced sensor system control algorithms and software - Update models and simulation to reflect advanced sensor system functionality - Begin surrogate advanced sensor integration | | | |
| FY 2014 Plans: N/A | | | |
| Accomplishments/Planned Programs Subtotals | 0.000 | 55.760 | 0.000 |

UNCLASSIFIED

| | | |
|---|--|--|
| Exhibit R-2A, RDT&E Project Justification: PB 2014 Missile Defense Agency | | DATE: April 2013 |
| APPROPRIATION/BUDGET ACTIVITY 0400: <i>Research, Development, Test & Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i> | R-1 ITEM NOMENCLATURE PE 0604886C: <i>Advanced Remote Sensor Technology (ARST)</i> | PROJECT MD95: <i>Advanced Remote Sensor Technology</i> |
| C. Other Program Funding Summary (\$ in Millions) N/A | | |
| Remarks | | |
| D. Acquisition Strategy N/A | | |
| E. Performance Metrics N/A | | |

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Missile Defense Agency **DATE:** April 2013

| | | |
|---|--|--|
| APPROPRIATION/BUDGET ACTIVITY 0400: <i>Research, Development, Test & Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i> | R-1 ITEM NOMENCLATURE PE 0604886C: <i>Advanced Remote Sensor Technology (ARST)</i> | PROJECT MD95: <i>Advanced Remote Sensor Technology</i> |
|---|--|--|

| Product Development (\$ in Millions) | | | | FY 2012 | | FY 2013 | | FY 2014 Base | | FY 2014 OCO | | FY 2014 Total | Cost To Complete | Total Cost | Target Value of Contract |
|---|------------------------|--|-----------------|---------|------------|---------|------------|--------------|------------|-------------|------------|---------------|------------------|------------|--------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | All Prior Years | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | | | |
| Advanced Remote Sensor Technology - Advanced sensor development, software builds, and advanced sensor integration | C/CPFF | Various:Various | 0.000 | 0.000 | | 15.000 | Oct 2012 | 0.000 | | - | | 0.000 | 0.000 | 15.000 | 0.000 |
| Advanced Remote Sensor Technology - Advanced sensor technology development | C/CPFF | Various:Various | 0.000 | 0.000 | | 6.500 | Oct 2012 | 0.000 | | - | | 0.000 | 0.000 | 6.500 | 0.000 |
| Advanced Remote Sensor Technology - Advanced sensor technology development and design, control algorithms and software builds | FFRDC | Massachusetts Institute of Technology :Lexington, MA | 0.000 | 0.000 | | 15.959 | Oct 2012 | 0.000 | | - | | 0.000 | 0.000 | 15.959 | 0.000 |
| Subtotal | | | 0.000 | 0.000 | | 37.459 | | 0.000 | | 0.000 | | 0.000 | 0.000 | 37.459 | 0.000 |

Remarks

N/A

| Support (\$ in Millions) | | | | FY 2012 | | FY 2013 | | FY 2014 Base | | FY 2014 OCO | | FY 2014 Total | Cost To Complete | Total Cost | Target Value of Contract |
|---------------------------------|------------------------|--------------------------------|-----------------|---------|------------|---------|------------|--------------|------------|-------------|------------|---------------|------------------|------------|--------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | All Prior Years | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | | | |
| Subtotal | | | 0.000 | 0.000 | | 0.000 | | 0.000 | | 0.000 | | 0.000 | 0.000 | 0.000 | 0.000 |

Remarks

N/A

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Missile Defense Agency **DATE:** April 2013

| | | |
|---|--|--|
| APPROPRIATION/BUDGET ACTIVITY 0400: <i>Research, Development, Test & Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i> | R-1 ITEM NOMENCLATURE PE 0604886C: <i>Advanced Remote Sensor Technology (ARST)</i> | PROJECT MD95: <i>Advanced Remote Sensor Technology</i> |
|---|--|--|

| Test and Evaluation (\$ in Millions) | | | | FY 2012 | | FY 2013 | | FY 2014 Base | | FY 2014 OCO | | FY 2014 Total | Cost To Complete | Total Cost | Target Value of Contract |
|--|------------------------|---|-----------------|---------|------------|---------|------------|--------------|------------|-------------|------------|---------------|------------------|------------|--------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | All Prior Years | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | | | |
| Advanced Remote Sensor Technology - Advanced sensor system test and evaluation | C/CPFF | Massachusetts Institute of Technology:Lexington, MA | 0.000 | 0.000 | | 8.600 | Oct 2012 | 0.000 | | - | | 0.000 | 0.000 | 8.600 | 0.000 |
| Subtotal | | | 0.000 | 0.000 | | 8.600 | | 0.000 | | 0.000 | | 0.000 | 0.000 | 8.600 | 0.000 |

Remarks
N/A

| Management Services (\$ in Millions) | | | | FY 2012 | | FY 2013 | | FY 2014 Base | | FY 2014 OCO | | FY 2014 Total | Cost To Complete | Total Cost | Target Value of Contract |
|--|------------------------|---|-----------------|---------|------------|---------|------------|--------------|------------|-------------|------------|---------------|------------------|------------|--------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | All Prior Years | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | | | |
| Advanced Remote Sensor Technology - Program Management | Allot | Missile Defense Agency Other Government Agencies :Various | 0.000 | 0.000 | | 9.701 | Oct 2012 | 0.000 | | - | | 0.000 | 0.000 | 9.701 | 0.000 |
| Subtotal | | | 0.000 | 0.000 | | 9.701 | | 0.000 | | 0.000 | | 0.000 | 0.000 | 9.701 | 0.000 |

Remarks
N/A

| | All Prior Years | FY 2012 | FY 2013 | FY 2014 Base | FY 2014 OCO | FY 2014 Total | Cost To Complete | Total Cost | Target Value of Contract |
|----------------------------|-----------------|---------|---------|--------------|-------------|---------------|------------------|------------|--------------------------|
| Project Cost Totals | 0.000 | 0.000 | 55.760 | 0.000 | 0.000 | 0.000 | 0.000 | 55.760 | 0.000 |

Remarks
N/A

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2014 Missile Defense Agency **DATE:** April 2013

| | | |
|---|--|--|
| APPROPRIATION/BUDGET ACTIVITY 0400: <i>Research, Development, Test & Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i> | R-1 ITEM NOMENCLATURE PE 0604886C: <i>Advanced Remote Sensor Technology (ARST)</i> | PROJECT MD95: <i>Advanced Remote Sensor Technology</i> |
|---|--|--|

| | | | | |
|----------------------------|-----------------------------|-----------------------|----------------------------|-------------------|
| Significant Event Complete | Milestone Decision Complete | Element Test Complete | System Level Test Complete | Complete Activity |
| Significant Event Planned | Milestone Decision Planned | Element Test Planned | System Level Test Planned | Planned Activity |

| | FY 2012 | | | | FY 2013 | | | | FY 2014 | | | | FY 2015 | | | | FY 2016 | | | | FY 2017 | | | | FY 2018 | | | |
|--|---------|---|---|---|---------|---|---|---|---------|---|---|---|---------|---|---|---|---------|---|---|---|---------|---|---|---|---------|---|---|---|
| | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 |
| Develop advanced sensor technology | | | | | | | | ▲ | | | | | | | | | | | | | | | | | | | | |
| Advanced sensor component fabrication and laboratory testing | | | | | + | + | + | + | | | | | | | | | | | | | | | | | | | | |
| Advanced sensor test bed integration and demonstrations | | | | | + | + | + | + | | | | | | | | | | | | | | | | | | | | |
| Advanced sensor algorithm and prototype software development | | | | | + | + | + | + | | | | | | | | | | | | | | | | | | | | |
| Acquisition, Pointing, and Tracking Platform characterization and tracking | | | | | + | + | + | + | | | | | | | | | | | | | | | | | | | | |

UNCLASSIFIED

Exhibit R-4A, RDT&E Schedule Details: PB 2014 Missile Defense Agency **DATE:** April 2013

| | | |
|---|--|--|
| APPROPRIATION/BUDGET ACTIVITY 0400: <i>Research, Development, Test & Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i> | R-1 ITEM NOMENCLATURE PE 0604886C: <i>Advanced Remote Sensor Technology (ARST)</i> | PROJECT MD95: <i>Advanced Remote Sensor Technology</i> |
|---|--|--|

Schedule Details

| Events | Start | | End | |
|--|---------|------|---------|------|
| | Quarter | Year | Quarter | Year |
| Develop advanced sensor technology | 4 | 2013 | 4 | 2013 |
| Advanced sensor component fabrication and laboratory testing | 1 | 2013 | 4 | 2013 |
| Advanced sensor test bed integration and demonstrations | 1 | 2013 | 4 | 2013 |
| Advanced sensor algorithm and prototype software development | 1 | 2013 | 4 | 2013 |
| Acquisition, Pointing, and Tracking Platform characterization and tracking | 1 | 2013 | 4 | 2013 |

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2014 Missile Defense Agency **DATE:** April 2013

| | | |
|---|--|---|
| APPROPRIATION/BUDGET ACTIVITY 0400: <i>Research, Development, Test & Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i> | R-1 ITEM NOMENCLATURE PE 0604886C: <i>Advanced Remote Sensor Technology (ARST)</i> | PROJECT MD40: <i>Program-Wide Support</i> |
|---|--|---|

| COST (\$ in Millions) | All Prior Years | FY 2012 | FY 2013 [#] | FY 2014 Base | FY 2014 OCO ^{##} | FY 2014 Total | FY 2015 | FY 2016 | FY 2017 | FY 2018 | Cost To Complete | Total Cost |
|-----------------------------------|-----------------|---------|----------------------|--------------|---------------------------|---------------|---------|---------|---------|---------|------------------|------------|
| MD40: <i>Program-Wide Support</i> | - | 0.000 | 2.982 | 0.000 | - | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 2.982 |
| Quantity of RDT&E Articles | | 0 | 0 | 0 | | 0 | 0 | 0 | 0 | 0 | | |

[#] FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

^{##} The FY 2014 OCO Request will be submitted at a later date

Note

N/A

A. Mission Description and Budget Item Justification

Program-Wide Support (PWS) contains non-headquarters management costs in support of Missile Defense Agency (MDA) functions and activities across the entire Ballistic Missile Defense System (BMDS). It Includes Government Civilians, Contract Support Service, and Federally Funded Research and Development Center (FFRDC) providing integrity and oversight of the BMDS as well as, supporting MDA in enabling the development and evaluation of technologies that will respond to the changing threat. In addition, includes Global Deployment personnel and support performing deployment site preparation and activation. Other costs included provide facility capabilities for MDA Executing Agent locations, such as physical and technical security, legal services, travel and agency training, office and equipment leases, rents and utilities, data and unified communications support, supplies and maintenance, logistics and central property management of equipment, and similar operating expenses. Also includes legal settlements. In keeping with congressional intent, PWS is allocated on a pro-rata basis and therefore, fluctuates by year based on the total MDA budget.

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)

| | FY 2012 | FY 2013 | FY 2014 |
|---|---------|---------|---------|
| Title: Program Wide Support | 0.000 | 2.982 | 0.000 |
| Articles: | 0 | 0 | 0 |
| Description: N/A | | | |
| FY 2012 Accomplishments: N/A | | | |
| FY 2013 Plans: See paragraph A, Mission Description and Budget Item Justification | | | |
| FY 2014 Plans: FY 2014 plans have been transferred to BMD Technology (0603175C) Program Element | | | |
| Accomplishments/Planned Programs Subtotals | 0.000 | 2.982 | 0.000 |

UNCLASSIFIED

| | | |
|---|--|---|
| Exhibit R-2A, RDT&E Project Justification: PB 2014 Missile Defense Agency | | DATE: April 2013 |
| APPROPRIATION/BUDGET ACTIVITY 0400: <i>Research, Development, Test & Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i> | R-1 ITEM NOMENCLATURE PE 0604886C: <i>Advanced Remote Sensor Technology (ARST)</i> | PROJECT MD40: <i>Program-Wide Support</i> |

| |
|---|
| C. Other Program Funding Summary (\$ in Millions) N/A |
| Remarks |
| D. Acquisition Strategy NA |
| E. Performance Metrics NA |

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Missile Defense Agency **DATE:** April 2013

| | | |
|---|--|---|
| APPROPRIATION/BUDGET ACTIVITY 0400: <i>Research, Development, Test & Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i> | R-1 ITEM NOMENCLATURE PE 0604886C: <i>Advanced Remote Sensor Technology (ARST)</i> | PROJECT MD40: <i>Program-Wide Support</i> |
|---|--|---|

| Support (\$ in Millions) | | | | FY 2012 | | FY 2013 | | FY 2014 Base | | FY 2014 OCO | | FY 2014 Total | Cost To Complete | Total Cost | Target Value of Contract |
|---|------------------------|--------------------------------|-----------------|---------|------------|---------|------------|--------------|------------|-------------|------------|---------------|------------------|------------|--------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | All Prior Years | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | | | |
| Program Wide Support - Agency Operations and Support Services | Reqn | Various:Multi: AL, CA, CO, VA | 0.000 | 0.000 | | 0.757 | Jun 2013 | 0.000 | | - | | 0.000 | 0.000 | 0.757 | 0.000 |
| Program Wide Support - Facilities and Maintenance | MIPR | Various:Multi: AL, CA, CO, VA | 0.000 | 0.000 | | 2.225 | Jun 2013 | 0.000 | | - | | 0.000 | 0.000 | 2.225 | 0.000 |
| Subtotal | | | 0.000 | 0.000 | | 2.982 | | 0.000 | | 0.000 | | 0.000 | 0.000 | 2.982 | 0.000 |

Remarks
N/A

| | All Prior Years | FY 2012 | FY 2013 | FY 2014 Base | FY 2014 OCO | FY 2014 Total | Cost To Complete | Total Cost | Target Value of Contract |
|----------------------------|-----------------|---------|---------|--------------|-------------|---------------|------------------|------------|--------------------------|
| Project Cost Totals | 0.000 | 0.000 | 2.982 | 0.000 | 0.000 | 0.000 | 0.000 | 2.982 | 0.000 |

Remarks
N/A