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Exhibit R-2, RDT&E Budget Item Justification: FY 2018 Air Force

Appropriation/Budget Activity
3600: Research, Development, Test & Evaluation, Air Force / BA 7:
Operational Systems Development

R-1 Program Element (Number/Name)
PE 0207136F / Manned Destructive Suppression

<table>
<thead>
<tr>
<th>COST ($ in Millions)</th>
<th>Prior Years</th>
<th>FY 2016</th>
<th>FY 2017</th>
<th>FY 2018 Base</th>
<th>FY 2018 OCO</th>
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<th>FY 2019</th>
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A. Mission Description and Budget Item Justification
The Manned Destructive Suppression (MDS) program element funds the development, procurement, and sustainment of the Air Force's Suppression of Enemy Air Defenses (SEAD) and Destruction of Enemy Air Defenses (DEAD) capabilities. The F-16 HARM Targeting System (HTS) is currently the only programmed reactive SEAD capability and enables targeting the HARM missile in its most lethal 'range known' mode. The program provides F-16 Block 50/52 and Block 40/42 aircraft with the ability to employ the AN/ASQ-213 Pod. With the introduction of HTS Revision 7 (HTS R7) in 2007, the AN/ASQ-213 Pod now has a precision geo-location capability to target Precision Guided Munitions (PGMs) to destroy fixed and mobile enemy air defense elements. Additionally, by relocating the AN/ASQ-213 HTS R7 Pod to the aircraft's left inlet hard point, the F-16 can simultaneously carry the HTS R7 Pod and an Advanced Targeting Pod (ATP). HTS R7 fielding is complete and represents the Air Force's near-term solution for reactive time critical targeting for DEAD until this mission can be transferred to F-35 or a yet to be defined system. HTS R7 derived precision targeting data can be provided to all Joint Forces via Link-16. This effort continues preplanned product improvements (P3I) for the HTS and applies technologies similar to those demonstrated in the Advanced Tactical Targeting Technologies (AT3) program and HTS R7 development.

Funds may be used to address emerging and short-notice Diminishing Manufacturing and Material Shortage (DMSMS) issues.

This program is in Budget Activity 7, Operational System Development because this budget activity includes development efforts to upgrade systems that have been fielded or have received approval for full rate production and anticipate production funding in the current or subsequent fiscal year.

B. Program Change Summary ($ in Millions)

<table>
<thead>
<tr>
<th>Previous President's Budget</th>
<th>FY 2016</th>
<th>FY 2017</th>
<th>FY 2018 Base</th>
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<tr>
<td>• Congressional Rescissions</td>
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<td>• Congressional Adds</td>
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Exhibit R-2, RDT&E Budget Item Justification: FY 2018 Air Force

Date: May 2017

Appropriation/Budget Activity
3600: Research, Development, Test & Evaluation, Air Force / BA 7:
Operational Systems Development

R-1 Program Element (Number/Name)
PE 0207136F / Manned Destructive Suppression

Change Summary Explanation
Continue mission planning in support of HTS SWUP and future P3I upgrades. This effort includes continued development and testing of candidate upgrades and incremental engineering releases in support of fielding.

C. Accomplishments/Planned Programs ($ in Millions)

<table>
<thead>
<tr>
<th>Title:</th>
<th>FY 2016</th>
<th>FY 2017</th>
<th>FY 2018</th>
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<td>P3I R7 Software Upgrade (SWUP)</td>
<td>11.200</td>
<td>12.823</td>
<td>12.756</td>
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</table>

FY 2016 Accomplishments:
Continued HTS R7.8 SWUP software development and formal development flight testing, test data analysis, software fixes, and release of updated software for iterative flight testing. Risk reduction included a minor software update (maintenance release) in support of F-16 Operational Flight Program (OFP) M7.2+ and studies continued risk reduction efforts for future P3I phase(s). Mission support (i.e., program management for administrative and technical support) continued.

FY 2017 Plans:
Continue HTS R7.8 SWUP software development and complete flight testing, test data analysis, software fixes, and software FCA. Risk reduction includes minor software updates (maintenance releases) in support of F-16 OFP M7.2+ and studies continue on risk reduction efforts for future P3I phase(s). Mission support (i.e., program management for administrative and technical support) continues.

FY 2018 Plans:
HTS SWUP risk reduction efforts continue to include minor software updates (maintenance releases) in support of F-16 OFP M7.2+ and candidate definition for the next SWUP upgrade. Mission support (i.e., program management for administrative and technical support) will continue. Down-selection of warfighter candidates for the next SWUP effort will occur, and risk reduction activities for subsequent SWUP upgrades will continue.

Title: Flight Test

Description: Flight Test

FY 2016 Accomplishments:
Government flight test operations continued in formal development flight testing of R7.8 SWUP software capabilities. Developmental test included test data analysis support and baselining requirements from actual test data results during flight testing. Conducted ground testing such as anechoic chamber testing, as needed. The test organization conducted each mission
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Exhibit R-2, RDT&E Budget Item Justification: FY 2018 Air Force

Date: May 2017

Appropriation/Budget Activity
3600: Research, Development, Test & Evaluation, Air Force / BA 7: Operational Systems Development

R-1 Program Element (Number/Name)
PE 0207136F / Manned Destructive Suppression

C. Accomplishments/Planned Programs ($ in Millions)

to include F-16 test aircraft operations, threat/test ranges and associated support, air refueling, and range control support. Post-
mission support for each mission was accomplished.

FY 2017 Plans:
Government flight test operations continues in formal development flight testing of R7.8 SWUP software capabilities. This funding
also includes test data analysis support and baselining requirements from actual test data results during flight testing. Conduct
ground testing such as anechoic chamber testing, as needed. The test organization will conduct each mission to include F-16 test
aircraft operations, threat/test ranges and associated support, air re-fueling, and range control support. Post-mission support for
each mission is planned.

FY 2018 Plans:
Government flight test operations continue in planning for the next SWUP. This funding also includes baselining requirements
from actual test data during recent flight testing. Ground testing such as anechoic chamber testing will be conducted, as needed.
The test organization will conduct each mission to include F-16 test aircraft operations, threat/test ranges and associated support,
air refueling, and range control support. Post-mission support for each mission is planned.

Title: Mission Planning

Description: Joint Mission Planning System (JMPS) (Formerly Air Force Mission Support System (AFMSS))

FY 2016 Accomplishments:
Continued mission planning in conjunction with HTS R7.8 software upgrade and future P3I upgrades. This effort included
continued development and testing of candidate upgrades and incremental engineering releases in support of fielding.

FY 2017 Plans:
Continue mission planning in conjunction with HTS R7.8 software upgrade and future P3I upgrades. This effort includes
continued development and testing of candidate upgrades and incremental engineering releases in support of fielding.

FY 2018 Plans:
Continue mission planning in support of HTS SWUP and future P3I upgrades. This effort includes continued development and
testing of candidate upgrades and incremental engineering releases in support of fielding.

Accomplishments/Planned Programs Subtotals 14.400 14.773 15.106

D. Other Program Funding Summary ($ in Millions)

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Air Force

Page 3 of 8

R-1 Line #185
Exhibit R-2, RDT&E Budget Item Justification: FY 2018 Air Force

Date: May 2017

Appropriation/Budget Activity
3600: Research, Development, Test & Evaluation, Air Force / BA 7: Operational Systems Development

R-1 Program Element (Number/Name)
PE 0207136F / Manned Destructive Suppression

D. Other Program Funding Summary ($ in Millions)

|-----------|---------|---------|--------------|-------------|--------------|---------|---------|---------|---------|------------------|------------|

Remarks

E. Acquisition Strategy

The HTS R7 acquisition improvement strategy includes accomplishment of risk reduction studies and selection of appropriate contracting strategies for P3I and upgrade of HTS inventory.

F. Performance Metrics

Please refer to the Performance Base Budget Overview Book for information on how Air Force resources are applied and how those resources are contributing to Air Force performance goals and most importantly, how they contribute to our mission.
## Product Development ($ in Millions)

<table>
<thead>
<tr>
<th>Cost Category Item</th>
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<th>Performing Activity &amp; Location</th>
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<th>Award Date</th>
<th>Cost</th>
<th>FY 2017</th>
<th>Award Date</th>
<th>Cost</th>
<th>FY 2018 Base</th>
<th>Award Date</th>
<th>Cost</th>
<th>FY 2018 OCO</th>
<th>Award Date</th>
<th>Cost</th>
<th>FY 2018 Total</th>
<th>Cost</th>
<th>Award Date</th>
<th>Cost To Complete</th>
<th>Total Cost</th>
<th>Target Value of Contract</th>
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<tbody>
<tr>
<td>HTS R7 SWUP/P3I</td>
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**Remarks**
HTS R7.8 SWUP risk reduction completed in May 2013. HTS R7.8 development began in May 2013 and is projected to continue until 2017.

## Support ($ in Millions)

<table>
<thead>
<tr>
<th>Cost Category Item</th>
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<th>Performing Activity &amp; Location</th>
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<th>Cost</th>
<th>FY 2017</th>
<th>Award Date</th>
<th>Cost</th>
<th>FY 2018 Base</th>
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## Test and Evaluation ($ in Millions)

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<th>Cost</th>
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<th>FY 2018 Base</th>
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<th>Cost</th>
<th>FY 2018 OCO</th>
<th>Award Date</th>
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## Management Services ($ in Millions)

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<th>Award Date</th>
<th>Cost</th>
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<th>Award Date</th>
<th>Cost</th>
<th>FY 2018 Base</th>
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<th>Cost To Complete</th>
<th>Total Cost</th>
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**Remarks**

PE 0207136F: Manned Destructive Suppression

Air Force
### Exhibit R-3, RDT&E Project Cost Analysis: FY 2018 Air Force

**Date:** May 2017

<table>
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<tr>
<th>Appropriation/Budget Activity</th>
<th>R-1 Program Element (Number/Name)</th>
<th>Project (Number/Name)</th>
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<tr>
<td>3600 / 7</td>
<td>PE 0207136F / Manned Destructive Suppression</td>
<td>674595 / F-16 HARM Targeting Sys</td>
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<th>FY 2016</th>
<th>FY 2017</th>
<th>FY 2018 Base</th>
<th>FY 2018 OCO</th>
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**Remarks**
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<thead>
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<th>Exhibit R-4, RDT&amp;E Schedule Profile: FY 2018 Air Force</th>
<th>Date: May 2017</th>
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<td>Appropriation/Budget Activity</td>
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<tr>
<td>Project (Number/Name)</td>
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</tr>
<tr>
<td>674595 / F-16 HARM Targeting Sys</td>
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</tbody>
</table>

| R7.8 SWUP Contract                                    |               |
|                                                     |               |
| R7.8 SWUP Flight test (CT&E/DT&E)                    |               |
|                                                     |               |
| R7.8 Software Release                                 |               |
|                                                     |               |
| R7.9 SWUP (R7.8X MNX Updates) Risk Reduction         |               |
|                                                     |               |
| R7.8X MNX1 Update Release                            |               |
|                                                     |               |
| R7.9 SWUP Contract                                   |               |
|                                                     |               |
| R7.9 SWUP (CT&E/DT&E)                                |               |
|                                                     |               |
| R7.9 Software Release                                |               |
|                                                     |               |
| R7.8X MNX2 Update Release                            |               |

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<td>2017</td>
</tr>
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<td>2017</td>
<td>3</td>
<td>2017</td>
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<td>R7.9 SWUP (R7.8X MNX Updates) Risk Reduction</td>
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<td>2018</td>
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