Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Army

Date: February 2015

Appropriation/Budget Activity

R-1 Program Element (Number/Name)

2040: Research, Development, Test & Evaluation, Army I BA 7: Operational

PE 0205778A I Guided Multiple-Launch Rocket System (GMLRS)

Systems Development

| COST (\$ in Millions)              | Prior<br>Years | FY 2014 | FY 2015 | FY 2016<br>Base | FY 2016<br>OCO | FY 2016<br>Total | FY 2017 | FY 2018 | FY 2019 | FY 2020 | Cost To<br>Complete | Total<br>Cost |  |
|------------------------------------|----------------|---------|---------|-----------------|----------------|------------------|---------|---------|---------|---------|---------------------|---------------|--|
| Total Program Element              | -              | -       | 45.353  | 17.527          | -              | 17.527           | 27.829  | 29.669  | 29.406  | 24.036  | Continuing          | Continuing    |  |
| EG2: GMLRS Alternative<br>Warheads | -              | -       | 33.880  | 0.319           | -              | 0.319            | -       | -       | -       | -       | Continuing          | Continuing    |  |
| EG3: Guided MLRS                   | -              | -       | 11.473  | 17.208          | -              | 17.208           | 27.829  | 29.669  | 29.406  | 24.036  | Continuing          | Continuing    |  |

#### Note

Adjustments to Budget Years: Funding adjusted to reflect changes to FY2015-2016 activities.

### A. Mission Description and Budget Item Justification

Projects EG2/EG3. GMLRS rockets are surface-to-surface artillery rockets fired from the Multiple Launch Rocket System (MLRS) and High Mobility Artillery Rocket System (HIMARS) launchers. GMLRS rockets provide 24/7, all-weather precision fires to engage both area and point targets at short, medium, and long ranges.

The GMLRS Program consists of three separate increments: GMLRS Dual Purpose Improved Conventional Munition (DPICM) cluster munition to engage area or imprecisely located targets; GMLRS Unitary that utilizes a 200 lb high explosive warhead to engage point targets with limited collateral damage; and GMLRS Alternative Warhead (AW) that is being developed as a non-cluster munition to replace GMLRS DPICM. GMLRS DPICM Production was terminated in response to the June 2008 Department of Defense (DoD) Cluster Munitions Policy. GMLRS Unitary is currently in full rate production. GMLRS AW is currently in the Engineering and Manufacturing Development (EMD) Phase and scheduled to enter full rate production in FY2015. The GMLRS AW rocket is 90% common with the Unitary variant.

| B. Program Change Summary (\$ in Millions)            | FY 2014 | FY 2015 | <b>FY 2016 Base</b> | FY 2016 OCO | FY 2016 Total |
|---|---------|---------|---------------------|-------------|---------------|
| Previous President's Budget                           | -       | 45.377  | 17.175              | -           | 17.175        |
| Current President's Budget                            | -       | 45.353  | 17.527              | -           | 17.527        |
| Total Adjustments                                     | -       | -0.024  | 0.352               | -           | 0.352         |
| Congressional General Reductions                      | -       | -       |                     |             |               |
| <ul> <li>Congressional Directed Reductions</li> </ul> | -       | -       |                     |             |               |
| <ul> <li>Congressional Rescissions</li> </ul>         | -       | -       |                     |             |               |
| <ul> <li>Congressional Adds</li> </ul>                | -       | -       |                     |             |               |
| <ul> <li>Congressional Directed Transfers</li> </ul>  | -       | -       |                     |             |               |
| <ul> <li>Reprogrammings</li> </ul>                    | -       | -       |                     |             |               |
| SBIR/STTR Transfer                                    | -       | -       |                     |             |               |
| <ul> <li>Adjustments to Budget Years</li> </ul>       | -       | -0.024  | 0.352               | -           | 0.352         |
|   |         |         |                     |             |               |
|   |         |         |                     |             |               |

| Exhibit R-2A, RDT&E Project Ju         | Exhibit R-2A, RDT&E Project Justification: PB 2016 Army |         |         |                 |                |   |         |         |         |         |                     |               |  |
|--|---|---------|---------|-----------------|----------------|---|---------|---------|---------|---------|---------------------|---------------|--|
| Appropriation/Budget Activity 2040 / 7 |   |         |         |                 |                | R-1 Program Element (Number/Name) PE 0205778A I Guided Multiple-Launch Rocket System (GMLRS) Project (Number/Name) EG2 I GMLRS Alternative Warheads |         |         |         |         |                     |               |  |
| COST (\$ in Millions)                  | Prior<br>Years  | FY 2014 | FY 2015 | FY 2016<br>Base | FY 2016<br>OCO | FY 2016<br>Total  | FY 2017 | FY 2018 | FY 2019 | FY 2020 | Cost To<br>Complete | Total<br>Cost |  |
| EG2: GMLRS Alternative<br>Warheads     | -   | -       | 33.880  | 0.319           | -              | 0.319   | -       | -       | -       | -       | Continuing          | Continuing    |  |
| Quantity of RDT&E Articles             | -   | -       | -       | -               | -              | -   | -       | -       | -       | -       |                     |               |  |

#### Note

Army

Beginning in FY2015, Guided Multiple Launch Rocket System (GMLRS) has its own separate Program Element, 0205778A, to include Projects EG2 (GMLRS Alternative Warhead) and EG3 (Guided MLRS), previously under Program Element 0603778A Project Codes 78G and 784, respectively.

### A. Mission Description and Budget Item Justification

The United States (U.S.) Army is funding the development of the Guided Multiple Launch Rocket System (GMLRS) Alternative Warhead (AW) increment under the EG2-GMLRS AW project code. GMLRS AW is being developed as a non-cluster munition to replace GMLRS Dual Purpose Improved Conventional Munitions (DPICM) and service the same area and imprecisely-located targets. GMLRS DPICM Production was terminated in response to the June 2008 Department of Defense (DoD) Cluster Munitions Policy.

The GMLRS AW increment completed Milestone B (MS B) on February 19, 2012 and is currently in the Engineering and Manufacturing Development (EMD) Phase. The three-year EMD contract was awarded on March 30, 2012. Funding was requested in FY2013 for the second year of the EMD contract and for other government and contracted EMD activities to include engineering developmental testing and the Critical Design Review (CDR). GMLRS AW is scheduled for a combined Milestone C (MS C) and Full Rate Production (FRP) Decision in FY2015 and Initial Operational Capability (IOC) in FY2016. Acquisition Strategy is to procure AW as part of the annual GMLRS FRP contract.

| B. Accomplishments/Planned Programs (\$ in Millions)   | FY 2014 | FY 2015 | FY 2016 |
|--|---------|---------|---------|
| Title: Conduct Development Engineering, Design Component Testing, and Performance Analysis.                  | -       | 15.754  | 0.319   |
| Description: Funding is provided for the following effort  |         |         |         |
| FY 2015 Plans: Assess warhead capability and effectiveness in multiple employment scenarios.                 |         |         |         |
| FY 2016 Plans: Continue assessment of warhead capability and effectiveness in multiple employment scenarios. |         |         |         |
| Title: Perform technical assessments and concept studies.  | -       | 8.470   | -       |
| Description: Funding is provided for the following effort  |         |         |         |
| FY 2015 Plans:   |         |         |         |

PE 0205778A: Guided Multiple-Launch Rocket System (GM...

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| Exhibit R-2A, RDT&E Project Justification: PB 2016 Army | Date: February 2015 |       |   |
|---|---------------------|-------|---|
|   | ,                   | - 3 ( | umber/Name)<br>LRS Alternative Warheads |

| B. Accomplishments/Planned Programs (\$ in Millions)   | FY 2014 | FY 2015 | FY 2016 |
|--|---------|---------|---------|
| Evaluate production rate tooling assessments; conduct functional configuration audit; assess readiness for operational testing.  |         |         |         |
| Title: Prepare Milestone Documentation, Risk Reduction, and Program Reviews.   | -       | 1.491   | -       |
| Description: Funding is provided for the following effort  |         |         |         |
| FY 2015 Plans:   |         |         |         |
| Finalize milestone documentation; preparation of all documentation and presentation requirements associated with completion and execution of MS C and Full Rate Production Decision (FRPDR). |         |         |         |
| Title: Conduct System Test and Evaluation Activities.  | -       | 8.165   | -       |
| Description: Funding is provided for the following effort  |         |         |         |
| FY 2015 Plans:   |         |         |         |
| Initial Operational Test and Evaluation (IOT&E).   |         |         |         |
| Accomplishments/Planned Programs Subtotals   | -       | 33.880  | 0.319   |

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

|   |         | •       | FY 2016     | FY 2016 | FY 2016      |         |         |         |         | <b>Cost To</b> |                   |
|---|---------|---------|-------------|---------|--------------|---------|---------|---------|---------|----------------|-------------------|
| <u>Line Item</u>  | FY 2014 | FY 2015 | <b>Base</b> | OCO     | <u>Total</u> | FY 2017 | FY 2018 | FY 2019 | FY 2020 | Complete       | <b>Total Cost</b> |
| <ul> <li>GMLRS (C64400):</li> <li>GMLRS (C64400)</li> </ul>                           | 273.025 | 127.145 | 251.060     | -       | 251.060      | 155.428 | 170.820 | 205.038 | 232.632 | Continuing     | Continuing        |
| <ul> <li>Guided MLRS (784 &amp; EG3):</li> <li>Guided MLRS (784 &amp; EG3)</li> </ul> | 15.200  | 11.473  | 17.208      | -       | 17.208       | 27.829  | 29.669  | 29.406  | 24.036  | Continuing     | Continuing        |

### Remarks

GMLRS procurement funding includes C65404 and C65406.

## D. Acquisition Strategy

The GMLRS AW rocket is a product improved version of the current GMLRS rocket. During EMD, GMLRS AW will undergo further development, integration, and testing under a Firm Fixed Price (FFP) contract.

Beginning in FY2015, GMLRS has its own separate Program Element, 0205778A, to include Projects EG2 (GMLRS Alternative Warhead) and EG3 (Guided MLRS), previously under Program Element 0603778A Project Codes 78G and 784, respectively.

| Exhibit R-2A, RDT&E Project Justification: PB 2016 Arr | Date: February 2015  |  |
|--|--|--|
| Appropriation/Budget Activity<br>2040 / 7              | R-1 Program Element (Number/Name) PE 0205778A I Guided Multiple-Launch Rocket System (GMLRS) | Project (Number/Name) EG2 I GMLRS Alternative Warheads |
| E. Performance Metrics N/A                             |  |  |
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PE 0205778A: Guided Multiple-Launch Rocket System (GM... Army

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Army

R-1 Program Element (Number/Name)

Project (Number/Name)

2040 / 7

Appropriation/Budget Activity

PE 0205778A I Guided Multiple-Launch Rocket System (GMLRS) EG2 I GMLRS Alternative Warheads

Date: February 2015

| Management Services (\$ in Millions) |                              |                                   | FY 2           | 2014 | FY 2          | 2015  | FY 2<br>Ba    |       | FY 2          | 2016<br>CO | FY 2016<br>Total |       |            |               |                                |
|--------------------------------------|------------------------------|-----------------------------------|----------------|------|---------------|-------|---------------|-------|---------------|------------|------------------|-------|------------|---------------|--------------------------------|
| Cost Category Item                   | Contract<br>Method<br>& Type | Performing<br>Activity & Location | Prior<br>Years | Cost | Award<br>Date | Cost  | Award<br>Date | Cost  | Award<br>Date | Cost       | Award<br>Date    | Cost  | Cost To    | Total<br>Cost | Target<br>Value of<br>Contract |
| Government Program<br>Management     | TBD                          | PFRMS Project<br>Office, : RSA    | 0.000          | -    |               | 4.642 | Oct 2014      | 0.319 | Oct 2015      | -          |                  | 0.319 | Continuing | Continuing    | Continuing                     |
|                                      | •                            | Subtotal                          | 0.000          | -    |               | 4.642 |               | 0.319 |               | -          |                  | 0.319 | -          | -             | -                              |

#### Remarks

TBD-To Be Determined; Cont.-Continuing; PFRMS-Precision Fires Rocket and Missile Systems; RSA-Redstone Arsenal

| Product Development (\$ in Millions) |                              |  | FY 2           | 2014 | FY 2          | 2015   |               | 2016<br>ase |               | 2016<br>CO | FY 2016<br>Total |      |                     |               |                                |
|--------------------------------------|------------------------------|--|----------------|------|---------------|--------|---------------|-------------|---------------|------------|------------------|------|---------------------|---------------|--------------------------------|
| Cost Category Item                   | Contract<br>Method<br>& Type | Performing<br>Activity & Location                                    | Prior<br>Years | Cost | Award<br>Date | Cost   | Award<br>Date | Cost        | Award<br>Date | Cost       | Award<br>Date    | Cost | Cost To<br>Complete | Total<br>Cost | Target<br>Value of<br>Contract |
| AWP Contracts (Multiple)             | Various                      | ATK (Plymouth, MN)<br>LMMFCS (Dallas,<br>TX) : Systems<br>Integrator | 0.000          | -    |               | 11.081 | Dec 2014      | -           |               | -          |                  | -    | Continuing          | Continuing    | Continuing                     |
| Other Government<br>Agencies         | TBD                          | AMCOM/:<br>AMRDEC, RSA   | 0.000          | -    |               | 3.557  | Dec 2014      | -           |               | -          |                  | -    | Continuing          | Continuing    | Continuing                     |
|                                      |                              | Subtotal   | 0.000          | -    |               | 14.638 |               | -           |               | -          |                  | -    | -                   | -             | -                              |

#### Remarks

AWP-Alternative Warhead Program; Various-Competitive/Firm Fixed Price/Sole Source/Cost Plus Fixed Fee; TBD-To Be Determined; Cont.-Continuing; AMCOM-Army Materiel Command; AMRDEC-U.S. Army Research, Development and Engineering Command; RSA-Redstone Arsenal; ATK-Alliant Techsystems, Inc.; MN-Minnesota; LMMFCS-Lockheed Martin Missile and Fire Control System; TX-Texas

| Support (\$ in Millions) |                              | FY 2                                  | 2014           | FY 2 | 2015          | FY 2<br>Ba | 2016<br>ise   | FY 2 | 2016<br>CO    | FY 2016<br>Total |               |      |                     |               |                                |
|--------------------------|------------------------------|---------------------------------------|----------------|------|---------------|------------|---------------|------|---------------|------------------|---------------|------|---------------------|---------------|--------------------------------|
| Cost Category Item       | Contract<br>Method<br>& Type | Performing<br>Activity & Location     | Prior<br>Years | Cost | Award<br>Date | Cost       | Award<br>Date | Cost | Award<br>Date | Cost             | Award<br>Date | Cost | Cost To<br>Complete | Total<br>Cost | Target<br>Value of<br>Contract |
| Support Contracts        | C/CPFF                       | Camber Research/<br>S3/TMI, : Alabama | 0.000          | -    |               | 0.237      | Dec 2014      | -    |               | -                |               | -    | Continuing          | Continuing    | Continuing                     |
|                          |                              | Subtotal                              | 0.000          | -    |               | 0.237      |               | -    |               | -                |               | -    | -                   | -             | -                              |

PE 0205778A: Guided Multiple-Launch Rocket System (GM... Army

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| Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Army | Date: February 2015 |       |   |
|--|---------------------|-------|---|
| 2040 / 7   | ,                   | - 3 ( | umber/Name)<br>LRS Alternative Warheads |

| Support (\$ in Millions | Contract |                                   |                | FY   | 2014          | FY 2 | 2015          |      | 2016<br>ase   |      | 2016<br>CO    | FY 2016<br>Total |                     |               |                                |
|-------------------------|----------|-----------------------------------|----------------|------|---------------|------|---------------|------|---------------|------|---------------|------------------|---------------------|---------------|--------------------------------|
| Cost Category Item      |          | Performing<br>Activity & Location | Prior<br>Years | Cost | Award<br>Date | Cost | Award<br>Date | Cost | Award<br>Date | Cost | Award<br>Date | Cost             | Cost To<br>Complete | Total<br>Cost | Target<br>Value of<br>Contract |

Remarks

C/CPFF-Competitive/Cost Plus Fixed Fee; Cont.-Continuing; S3-Systems Studies Simulation, Inc.; TMI-Tec Master, Inc.

| Test and Evaluation | (\$ in Milli                 | ons)                              |                | FY 2 | 2014          | FY 2   | 2015          | FY 2<br>Ba |               |      | 2016<br>CO    | FY 2016<br>Total |                     |               |                                |
|---------------------|------------------------------|-----------------------------------|----------------|------|---------------|--------|---------------|------------|---------------|------|---------------|------------------|---------------------|---------------|--------------------------------|
| Cost Category Item  | Contract<br>Method<br>& Type | Performing<br>Activity & Location | Prior<br>Years | Cost | Award<br>Date | Cost   | Award<br>Date | Cost       | Award<br>Date | Cost | Award<br>Date | Cost             | Cost To<br>Complete | Total<br>Cost | Target<br>Value of<br>Contract |
| Test Support        | TBD                          | WSMR, : NM                        | 0.000          | -    |               | 14.363 | Dec 2014      | -          |               | -    |               | -                | -                   | 14.363        | -                              |
|                     | Subtotal 0.00                |                                   |                |      |               | 14.363 |               | -          |               | -    |               | -                | -                   | 14.363        | -                              |

#### Remarks

TBD-To Be Determined; Cont.-Continuing; WSMR, NM-White Sands Missile Range, New Mexico

|                     | Prior<br>Years | FY 2 | 2014 | FY 2   | 2015 | FY 2016<br>Base | FY 2016<br>OCO | FY 2016<br>Total | Cost To | Total<br>Cost | Target<br>Value of<br>Contract |
|---------------------|----------------|------|------|--------|------|-----------------|----------------|------------------|---------|---------------|--------------------------------|
| Project Cost Totals | 0.000          | -    |      | 33.880 |      | 0.319           | -              | 0.319            | -       | -             | -                              |

### Remarks

PE 0205778A: Guided Multiple-Launch Rocket System (GM... Army

|   |    |      |   | _ |   |      | 33  |                       | -   |      |     |     |              |             |                    |           |         |   |           |                    |            |             |           |              |                    |             |      |     |       |     |
|---|----|------|---|---|---|------|-----|-----------------------|-----|------|-----|-----|--------------|-------------|--------------------|-----------|---------|---|-----------|--------------------|------------|-------------|-----------|--------------|--------------------|-------------|------|-----|-------|-----|
| Exhibit R-4, RDT&E Schedule Profile: PB 2016 Army                 |    |      |   |   |   |      |     |                       |     |      |     |     |              |             |                    |           |         |   |           |                    |            | D           | ate       | e: F         | ebru               | ary 2       | 201  | 5   |       |     |
| Appropriation/Budget Activity<br>2040 / 7                         |    |      |   |   | F | PE 0 | 205 | gran<br>778/<br>Syste | 4/( | Guic | dea | l M | <i>lulti</i> | nbe<br>ple- | r/ <b>N</b><br>Lau | am<br>unc | e)<br>h |   | Pro<br>EG | <b>oje</b><br>62 / | ct (<br>GA | Nur<br>//LR | nb<br>?S⊅ | er/N<br>Alte | <b>lam</b><br>rnat | e)<br>ive V | Varl | nea | ds    |     |
| Event Name  | ⊢— | FY 2 |   |   |   | FY   |     |                       |     | FY:  |     |     |              |             |                    | 201       |         | 1 |           |                    | 2018       |             |           |              | / 20               |             |      |     | / 20  |     |
| Initial Operational Test (IOT)                                    | 1  | 2    | 3 | 4 | 1 | 2    | 3   | 4                     | 1   | 2    | 3   | 3   | 4            | 1           | 2                  | 3         | 4       | + | 1         | 2                  | 3          | 4           | 1         | 2            | 2 3                | 4           | 1    | 2   | 2   ; | 3 4 |
| Perform Technical Assessments and Concept Studies                 |    |      |   |   |   |      |     |                       |     |      |     |     |              |             |                    |           |         |   |           |                    |            |             |           |              |                    |             |      |     |       |     |
| (1) MS C and FRP  |    |      |   |   |   |      | ᄼ   |                       |     |      |     |     |              |             |                    |           |         |   |           |                    |            |             |           |              |                    |             |      |     |       |     |
| (2) IOC   |    |      |   |   |   |      |     |                       |     |      | A   |     |              |             |                    |           |         |   |           |                    |            |             |           |              |                    |             |      |     |       |     |
| Conduct Development Engineering/Design Component Testing/Performa |    |      |   |   |   |      |     |                       |     |      |     |     |              |             |                    |           |         |   |           |                    |            |             |           |              |                    |             |      |     |       |     |
|   |    |      |   |   |   |      |     |                       |     |      |     |     |              |             |                    |           |         |   |           |                    |            |             |           |              |                    |             |      |     |       |     |
|   |    |      |   |   |   |      |     |                       |     |      |     |     |              |             |                    |           |         |   |           |                    |            |             |           |              |                    |             |      |     |       |     |
|   |    |      |   |   |   |      |     |                       |     |      |     |     |              |             |                    |           |         |   |           |                    |            |             |           |              |                    |             |      |     |       |     |
|   |    |      |   |   |   |      |     |                       |     |      |     |     |              |             |                    |           |         |   |           |                    |            |             |           |              |                    |             |      |     |       |     |
|   |    |      |   |   |   |      |     |                       |     |      |     |     |              |             |                    |           |         |   |           |                    |            |             |           |              |                    |             |      |     |       |     |
|   |    |      |   |   |   |      |     |                       |     |      |     |     |              |             |                    |           |         |   |           |                    |            |             |           |              |                    |             |      |     |       |     |
|   |    |      |   |   |   |      |     |                       |     |      |     |     |              |             |                    |           |         |   |           |                    |            |             |           |              |                    |             |      |     |       |     |
|   |    |      |   |   |   |      |     |                       |     |      |     |     |              |             |                    |           |         |   |           |                    |            |             |           |              |                    |             |      |     |       |     |
|   |    |      |   |   |   |      |     |                       |     |      |     |     |              |             |                    |           |         |   |           |                    |            |             |           |              |                    |             |      |     |       |     |
|   |    |      |   |   |   |      |     |                       |     |      |     |     |              |             |                    |           |         |   |           |                    |            |             |           |              |                    |             |      |     |       |     |
|   |    |      |   |   |   |      |     |                       |     |      |     |     | - 1          |             |                    |           |         |   |           |                    |            |             | 1         |              |                    |             |      |     |       |     |

| Exhibit R-4A, RDT&E Schedule Details: PB 2016 Army |   |     | Date: February 2015                     |
|--|---|-----|---|
| 2040 / 7   | , | , , | umber/Name)<br>LRS Alternative Warheads |

# Schedule Details

|   | St      | art  | E       | nd   |
|---|---------|------|---------|------|
| Events  | Quarter | Year | Quarter | Year |
| Initial Operational Test (IOT)  | 1       | 2015 | 2       | 2015 |
| Perform Technical Assessments and Concept Studies                             | 1       | 2015 | 2       | 2015 |
| MS C and FRP  | 3       | 2015 | 3       | 2015 |
| IOC   | 3       | 2016 | 3       | 2016 |
| Conduct Development Engineering/Design Component Testing/Performance Analysis | 1       | 2015 | 2       | 2016 |

| Exhibit R-2A, RDT&E Project Ju         | stification    | : PB 2016 <i>F</i> | Army    |                 |                |                  |  |         |                          | Date: Febr | uary 2015           |               |
|--|----------------|--------------------|---------|-----------------|----------------|------------------|--|---------|--------------------------|------------|---------------------|---------------|
| Appropriation/Budget Activity 2040 / 7 |                |                    |         |                 | PE 020577      |                  | i <b>t (Number/</b><br>d Multiple-L<br>RS) | ,       | Project (N<br>EG3 / Guid |            | ne)                 |               |
| COST (\$ in Millions)                  | Prior<br>Years | FY 2014            | FY 2015 | FY 2016<br>Base | FY 2016<br>OCO | FY 2016<br>Total | FY 2017                                    | FY 2018 | FY 2019                  | FY 2020    | Cost To<br>Complete | Total<br>Cost |
| EG3: Guided MLRS                       | Guided MLRS 1  |                    | 11.473  | 17.208          | -              | 17.208           | 27.829                                     | 29.669  | 29.406                   | 24.036     | Continuing          | Continuing    |
| Quantity of RDT&E Articles             | -              | -                  | -       | -               | -              | -                | -  | -       | -                        | -          |                     |               |

#### Note

Beginning in FY2015, Guided Multiple Launch Rocket System (GMLRS) has its own separate Program Element, 0205778A, to include Projects EG2 (GMLRS Alternative Warhead) and EG3 (Guided MLRS), previously under Program Element 0603778A Project Codes 78G and 784, respectively.

### A. Mission Description and Budget Item Justification

The United States (U.S.) Army continues to explore ways to enhance Guided Multiple Launch Rocket System (GMLRS) Unitary rockets and common components and to mitigate obsolescence issues under the Guided MLRS project code. The Army is requesting funding for the following GMLRS Research, Development, Test and Evaluation (RDT&E) activities: (1) evaluation of enhanced operational capabilities to provide more flexibility across the target set to include increased range, flight performance, and end game optimization; (2) investigation of potential life cycle cost savings through obsolescence initiatives; (3) development of enhancements to the Multiple Launch Rocket System (MLRS) common test equipment; and (4) evaluation and development of technologies to enhance overall product performance and survivability to include Long-Range Precision Fires (LRPF) capabilities and (5) Insensitive Munitions (IM) compliance.

| B. Accomplishments/Planned Programs (\$ in Millions)  | FY 2014 | FY 2015 | FY 2016 |
|---|---------|---------|---------|
| Title: Assess and improve GMLRS rockets.  | -       | 1.606   | 2.409   |
| Description: Funding is provided for the following effort   |         |         |         |
| FY 2015 Plans: Continue to assess and evaluate improvements in rocket reliability, increased range, collateral damage, and effectiveness, execute spinless rail flights, and pod enhancement studies. |         |         |         |
| FY 2016 Plans: Continue to assess and evaluate improvements in rocket reliability, increased range, collateral damage, effectiveness, and pod enhancements.   |         |         |         |
| Title: Conduct development engineering and testing for IM program.  | -       | 6.425   | 9.636   |
| Description: Funding is provided for the following effort   |         |         |         |
| FY 2015 Plans: Conduct System Functional Design Review (FDR) and System Integration Tests (SITs) and STS flights.  FY 2016 Plans:   |         |         |         |

|  |                  |               |               | UNCLAS       | SIFIED  |               |            |         |                         |              |           |
|--|------------------|---------------|---------------|--------------|---|---------------|------------|---------|-------------------------|--------------|-----------|
| Exhibit R-2A, RDT&E Project Just   | ification: PB    | 2016 Army     |               | ,            |   |               |            |         | Date: Fe                | ebruary 2015 |           |
| Appropriation/Budget Activity<br>2040 / 7  |                  |               |               | PE 02        | r <b>ogram Ele</b> n<br>05778A / Gu<br>et System (G | ided Multiple |            |         | (Number/N<br>Guided MLR |              |           |
| B. Accomplishments/Planned Pro   | grams (\$ in N   | Millions)     |               |              |   |               |            |         | FY 2014                 | FY 2015      | FY 2016   |
| Proplusion system ground/flight test   | S.               |               |               |              |   |               |            |         |                         |              |           |
| Title: Investigate obsolescence cost   | t/cost reduction | n opportunit  | ies/second s  | source suppl | iers.   |               |            |         | -                       | 1.033        | 1.54      |
| <b>Description:</b> Funding is provided fo   | r the following  | geffort       |               |              |   |               |            |         |                         |              |           |
| FY 2015 Plans:<br>Insert Guidance Processor Unit (GP   | 'U) and Powe     | r Condition l | Jnit (PCU) in | nto GMLRS p  | orogram.  |               |            |         |                         |              |           |
| FY 2016 Plans:<br>Insert Guidance Processor Unit (GP   | U) and Powe      | r Condition l | Jnit (PCU) in | nto GMLRS p  | orogram.  |               |            |         |                         |              |           |
| Title: Conduct System Test and Eva   | aluation activit | ties.         |               |              |   |               |            |         | -                       | 2.409        | 3.61      |
| Description: Funding is provided fo  | r the following  | geffort       |               |              |   |               |            |         |                         |              |           |
| FY 2015 Plans: Conduct configuration ground control FY 2016 Plans: Conduct configuration ground control (ISD). | · ·              |               |               | , ,          |   | •             | ,          | evice   |                         |              |           |
|  |                  |               |               | Accon        | nplishments   | s/Planned P   | rograms Su | btotals | -                       | 11.473       | 17.20     |
| C. Other Program Funding Summa   | ary (\$ in Milli | ons)          | FY 2016       | FY 2016      | FY 2016   |               |            |         | ,                       | Cost To      |           |
| <u>Line Item</u>   | FY 2014          | FY 2015       | Base          | ОСО          | Total   | FY 2017       | FY 2018    | FY 2019 |                         | Complete     | Total Cos |
| • GMLRS (C64400):<br>GMLRS (C64400)  | 273.025          | 127.145       | 251.060       | -            | 251.060   | 155.428       | 170.820    | 205.038 | 3 232.632               | 2 Continuing | Continuin |
| <ul> <li>Gmlrs Alternative Warhead</li> <li>(78G &amp; EG: Gmlrs Alternative</li> </ul>                        | 38.528           | 33.880        | 0.319         | -            | 0.319   | -             | -          | -       | -                       | Continuing   | Continuin |
| Warhead (78G & EG2)<br>Remarks   |                  |               |               |              |   |               |            |         |                         |              |           |

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PE 0205778A: Guided Multiple-Launch Rocket System (GM...

| Exhibit R-2A, RDT&E Project Justification: PB 2016 Army |   |                           | Date: February 2015     |
|---|---|---------------------------|-------------------------|
| Appropriation/Budget Activity 2040 / 7                  | , | Project (No<br>EG3 / Guid | umber/Name)<br>led MLRS |

## D. Acquisition Strategy

Project EG3 is intended to support, investigate, and develop alternative material changes to improve the GMLRS family of munitions as they are identified by the material developer or combat developer. This project also supports Insensative Munitions (IM) activities to improve the overall posture of the system all the way down to component level. Future initiatives include a missile modernization program to extend the shelf life of the GMLRS rocket.

Beginning in FY2015, GMLRS has its own separate Program Element, 0205778A, to include Projects EG2 (GMLRS Alternative Warhead) and EG3 (Guided MLRS), previously under Program Element 0603778A Project Codes 78G and 784, respectively.

## **E. Performance Metrics**

N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Army

R-1 Program Element (Number/Name)

Project (Number/Name)

Date: February 2015

Appropriation/Budget Activity 2040 / 7

PE 0205778A I Guided Multiple-Launch Rocket System (GMLRS)

EG3 / Guided MLRS

| Management Service               | anagement Services (\$ in Millions) |                                   |                |      |               | FY 2  | 2015          | FY 2<br>Ba |               | FY 2 | 2016<br>CO    | FY 2016<br>Total |            |               |                                |
|----------------------------------|-------------------------------------|-----------------------------------|----------------|------|---------------|-------|---------------|------------|---------------|------|---------------|------------------|------------|---------------|--------------------------------|
| Cost Category Item               | Contract<br>Method<br>& Type        | Performing<br>Activity & Location | Prior<br>Years | Cost | Award<br>Date | Cost  | Award<br>Date | Cost       | Award<br>Date | Cost | Award<br>Date | Cost             | Cost To    | Total<br>Cost | Target<br>Value of<br>Contract |
| Government Program<br>Management | TBD                                 | PFRMS Project<br>Office, : RSA    | 0.000          | -    |               | 0.138 | Oct 2014      | 0.138      | Oct 2015      | -    |               | 0.138            | Continuing | Continuing    | Continuing                     |
|                                  | Subtotal 0.00                       |                                   |                | -    |               | 0.138 |               | 0.138      |               | -    |               | 0.138            | -          | -             | -                              |

#### Remarks

TBD-To Be Determined; Cont.-Continuing; PFRMS-Precision Fires Rocket and Missile Systems; RSA-Redstone Arsenal, Alabama

| Product Developme          | nt (\$ in Mi                 | illions)                          |                | FY 2 | 2014          | FY 2  | 2015          |        | 2016<br>ise   |      | 2016<br>CO    | FY 2016<br>Total |                     |               |                                |
|----------------------------|------------------------------|-----------------------------------|----------------|------|---------------|-------|---------------|--------|---------------|------|---------------|------------------|---------------------|---------------|--------------------------------|
| Cost Category Item         | Contract<br>Method<br>& Type | Performing<br>Activity & Location | Prior<br>Years | Cost | Award<br>Date | Cost  | Award<br>Date | Cost   | Award<br>Date | Cost | Award<br>Date | Cost             | Cost To<br>Complete | Total<br>Cost | Target<br>Value of<br>Contract |
| Unitary Contracts/Multiple | SS/CPFF                      | LMMFCS : Dallas,<br>TX            | 0.000          | -    |               | 8.857 | Dec 2014      | 10.978 | Dec 2015      | -    |               | 10.978           | Continuing          | Continuing    | Continuing                     |
|                            | Subtotal 0.0                 |                                   |                |      |               | 8.857 |               | 10.978 |               | -    |               | 10.978           | -                   | -             | -                              |

#### Remarks

SS/CPFF-Sole Source/Cost Plus Fixed Fee; Cont.-Continuing; LMMFCS - Lockheed Martin Missile and Fire Control System; TX - Texas; AMCOM-Aviation and Missile Command; TBD-To Be Determined; AMRDEC - U.S. Army Research, Development and Engineering Command; RSA - Redstone Arsenal, Alabama

| Test and Evaluation (\$ in Millions) |                              |                                   |                | FY 2014 |               | FY 2015 |               | FY 2016<br>Base |               | FY 2016<br>OCO |               | FY 2016<br>Total |            |               |                                |
|--------------------------------------|------------------------------|-----------------------------------|----------------|---------|---------------|---------|---------------|-----------------|---------------|----------------|---------------|------------------|------------|---------------|--------------------------------|
| Cost Category Item                   | Contract<br>Method<br>& Type | Performing<br>Activity & Location | Prior<br>Years | Cost    | Award<br>Date | Cost    | Award<br>Date | Cost            | Award<br>Date | Cost           | Award<br>Date | Cost             | Cost To    | Total<br>Cost | Target<br>Value of<br>Contract |
| Test Support                         | TBD                          | WSMR, : NM                        | 0.000          | -       |               | 2.478   | Dec 2014      | 6.092           | Dec 2015      | -              |               | 6.092            | Continuing | Continuing    | Continuing                     |
|                                      |                              | Subtotal                          | 0.000          | -       |               | 2.478   |               | 6.092           |               | -              |               | 6.092            | -          | -             | -                              |

#### Remarks

TBD-To Be Determined; Cont.-Continuing; WSMR, NM-White Sands Missile Range, New Mexico

|                     | Prior<br>Years | FY | 2014 | FY 2   | 2015 | FY 2<br>Ba | 2016<br>ise | FY 2016<br>OCO | FY 2016<br>Total | Cost To | Total<br>Cost | Target<br>Value of<br>Contract |
|---------------------|----------------|----|------|--------|------|------------|-------------|----------------|------------------|---------|---------------|--------------------------------|
| Project Cost Totals | 0.000          | -  |      | 11.473 |      | 17.208     |             | -              | 17.208           | -       | -             | -                              |

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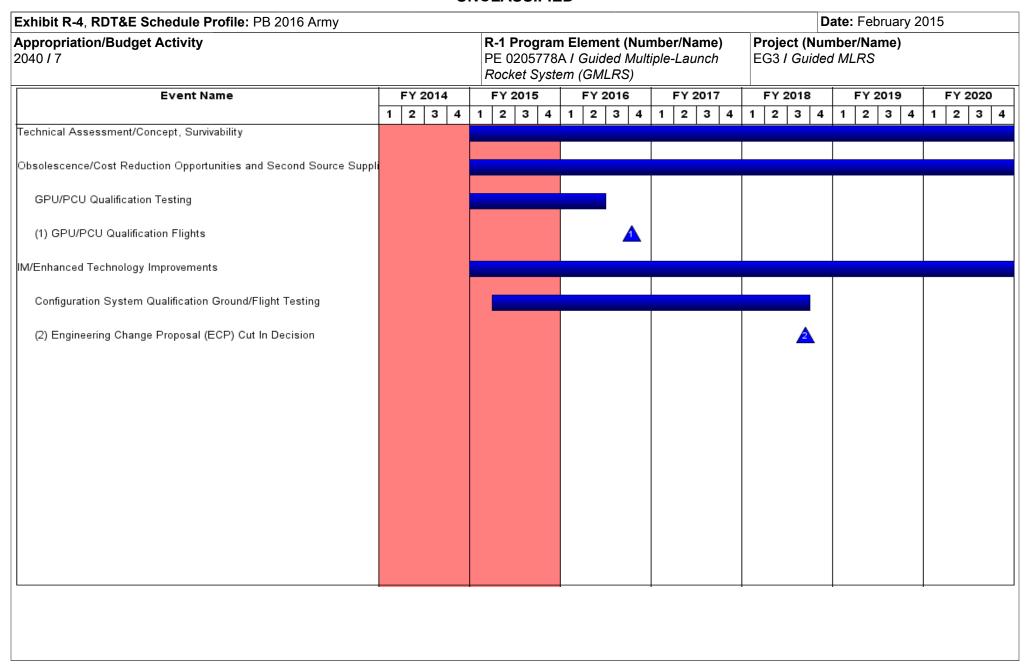
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R-1 Line #184

| PE 0205778A / Guided Multiple-Launch Rocket System (GMLRS)  Prior Pears FY 2014 FY 2015 Base OCO Total Complete Cost Core |   |                  | •       | DINCLASSIFIED |                 |  |      |                     |               |                              |
|---|---|------------------|---------|---------------|-----------------|--|------|---------------------|---------------|------------------------------|
| PE 0205778A / Guided Multiple-Launch Rocket System (GMLRS)  Prior Pears FY 2014 FY 2015 Base OCO Total Complete Cost Core | Exhibit R-3, RDT&E Project Cost Analys    | is: PB 2016 Army |         |               |                 |  | Date | February            | 2015          |                              |
| Prior FY 2016 FY 2016 FY 2016 Cost To Total Val Years FY 2014 FY 2015 Base OCO Total Complete Cost Cor                    | Appropriation/Budget Activity<br>2040 / 7 |                  |         | PE 0205778A / | e) Proje<br>EG3 | Project (Number/Name)<br>EG3 / Guided MLRS |      |                     |               |                              |
| emarks  |   |                  | FY 2014 | FY 2015       | FY 2016<br>Base | FY 2016<br>OCO                             |      | Cost To<br>Complete | Total<br>Cost | Target<br>Value o<br>Contrac |
|   | <u>Remarks</u>                            |                  |         |               |                 |  |      |                     |               |                              |
|   |   |                  |         |               |                 |  |      |                     |               |                              |
|   |   |                  |         |               |                 |  |      |                     |               |                              |
|   |   |                  |         |               |                 |  |      |                     |               |                              |
|   |   |                  |         |               |                 |  |      |                     |               |                              |
|   |   |                  |         |               |                 |  |      |                     |               |                              |
|   |   |                  |         |               |                 |  |      |                     |               |                              |
|   |   |                  |         |               |                 |  |      |                     |               |                              |
|   |   |                  |         |               |                 |  |      |                     |               |                              |
|   |   |                  |         |               |                 |  |      |                     |               |                              |
|   |   |                  |         |               |                 |  |      |                     |               |                              |
|   |   |                  |         |               |                 |  |      |                     |               |                              |
|   |   |                  |         |               |                 |  |      |                     |               |                              |
|   |   |                  |         |               |                 |  |      |                     |               |                              |
|   |   |                  |         |               |                 |  |      |                     |               |                              |

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| Exhibit R-4A, RDT&E Schedule Details: PB 2016 Army | Date: February 2015 |                          |                         |
|--|---------------------|--------------------------|-------------------------|
| 2040 / 7   | , , ,               | Project (N<br>EG3 / Guid | umber/Name)<br>ded MLRS |

# Schedule Details

|   | Start   |      | E       | nd   |
|---|---------|------|---------|------|
| Events  | Quarter | Year | Quarter | Year |
| Technical Assessment/Concept, Survivability                           | 1       | 2015 | 4       | 2020 |
| Obsolescence/Cost Reduction Opportunities and Second Source Suppliers | 1       | 2015 | 4       | 2020 |
| GPU/PCU Qualification Testing   | 1       | 2015 | 2       | 2016 |
| GPU/PCU Qualification Flights   | 4       | 2016 | 4       | 2016 |
| IM/Enhanced Technology Improvements                                   | 1       | 2015 | 4       | 2020 |
| Configuration System Qualification Ground/Flight Testing              | 2       | 2015 | 3       | 2018 |
| Engineering Change Proposal (ECP) Cut In Decision                     | 3       | 2018 | 3       | 2018 |