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**Exhibit R-2, RDT&E Budget Item Justification: PB 2021 Army** **Date:** February 2020

|  |   |
|--|---|
| <b>Appropriation/Budget Activity</b><br>2040: <i>Research, Development, Test &amp; Evaluation, Army / BA 2: Applied Research</i> | <b>R-1 Program Element (Number/Name)</b><br>PE 0602134A / <i>Counter Improvised-Threat Advanced Studies</i> |
|--|---|

| COST (\$ in Millions)                                  | Prior Years | FY 2019 | FY 2020 | FY 2021 Base | FY 2021 OCO | FY 2021 Total | FY 2022 | FY 2023 | FY 2024 | FY 2025 | Cost To Complete | Total Cost |
|--|-------------|---------|---------|--------------|-------------|---------------|---------|---------|---------|---------|------------------|------------|
| Total Program Element                                  | -           | 0.000   | 0.000   | 2.000        | -           | 2.000         | 2.000   | 2.000   | 2.000   | 2.000   | 0.000            | 10.000     |
| CD2: <i>Counter Improvised-Threat Advanced Studies</i> | -           | 0.000   | 0.000   | 2.000        | -           | 2.000         | 2.000   | 2.000   | 2.000   | 2.000   | 0.000            | 10.000     |

**Note**

This is a new start in FY2021.

This Program Element is a New Start for Fiscal Year 2021 (FY21).

**A. Mission Description and Budget Item Justification**

This Program Element (PE) executes applied research into novel methods for detecting and defeating Improvised Explosive Devices (IED) through the application of emerging technologies as well as research into emerging IED threats to evaluate potential methods of defeat. The goal of this research is to increase the ability of deployed forces to positively identify IEDs with minimal false alarms and positively neutralize or mitigate the effects of IEDs with minimal collateral damage through the systematic identification and maturation of technologies capable of defeating IEDs.

This PE is executed by the Army Futures Command (AFC) in coordination with the Under Secretary of Defense for Research and Engineering (USD/R&E) and the Defense Threat Reduction Agency (DTRA).

Work in this PE was previously conducted under PE 0602134BR, Improvised Threat Reduction Applied Research.

| <b><u>B. Program Change Summary (\$ in Millions)</u></b> | <b><u>FY 2019</u></b> | <b><u>FY 2020</u></b> | <b><u>FY 2021 Base</u></b> | <b><u>FY 2021 OCO</u></b> | <b><u>FY 2021 Total</u></b> |
|--|-----------------------|-----------------------|----------------------------|---------------------------|-----------------------------|
| Previous President's Budget                              | 0.000                 | 0.000                 | 0.000                      | -                         | 0.000                       |
| Current President's Budget                               | 0.000                 | 0.000                 | 2.000                      | -                         | 2.000                       |
| Total Adjustments  | 0.000                 | 0.000                 | 2.000                      | -                         | 2.000                       |
| • Congressional General Reductions                       | -                     | -                     |                            |                           |                             |
| • Congressional Directed Reductions                      | -                     | -                     |                            |                           |                             |
| • Congressional Rescissions                              | -                     | -                     |                            |                           |                             |
| • Congressional Adds                                     | -                     | -                     |                            |                           |                             |
| • Congressional Directed Transfers                       | -                     | -                     |                            |                           |                             |
| • Reprogrammings   | -                     | -                     |                            |                           |                             |
| • SBIR/STTR Transfer                                     | -                     | -                     |                            |                           |                             |
| • Adjustments to Budget Years                            | -                     | -                     | 2.000                      | -                         | 2.000                       |

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| <b>Exhibit R-2, RDT&amp;E Budget Item Justification:</b> PB 2021 Army  |   | <b>Date:</b> February 2020 |
| <b>Appropriation/Budget Activity</b><br>2040: <i>Research, Development, Test &amp; Evaluation, Army / BA 2: Applied Research</i>   | <b>R-1 Program Element (Number/Name)</b><br>PE 0602134A / <i>Counter Improvised-Threat Advanced Studies</i> |                            |
| <b><u>Change Summary Explanation</u></b><br>This PE is realigned in FY21 from PE 0602134BR Improvised Threat Reduction Applied Research as a result of the transfer of Counter-IED (C-IED) Research, Development, Test, and Evaluation (RDTE) activities to the Army and is fully coordinated with the Under Secretary of Defense for Research and Engineering (USD/R&E) and Defense Threat Reduction Agency (DTRA). |   |                            |

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|--|--------------------|----------------|----------------|---------------------|---|----------------------|----------------|----------------|---|----------------------------|-------------------------|-------------------|
| <b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2021 Army |                    |                |                |                     |   |                      |                |                |   | <b>Date:</b> February 2020 |                         |                   |
| <b>Appropriation/Budget Activity</b><br>2040 / 2                   |                    |                |                |                     | <b>R-1 Program Element (Number/Name)</b><br>PE 0602134A / <i>Counter Improvised-Threat Advanced Studies</i> |                      |                |                | <b>Project (Number/Name)</b><br>CD2 / <i>Counter Improvised-Threat Advanced Studies</i> |                            |                         |                   |
| <b>COST (\$ in Millions)</b>                                       | <b>Prior Years</b> | <b>FY 2019</b> | <b>FY 2020</b> | <b>FY 2021 Base</b> | <b>FY 2021 OCO</b>  | <b>FY 2021 Total</b> | <b>FY 2022</b> | <b>FY 2023</b> | <b>FY 2024</b>  | <b>FY 2025</b>             | <b>Cost To Complete</b> | <b>Total Cost</b> |
| CD2: <i>Counter Improvised-Threat Advanced Studies</i>             | -                  | 0.000          | 0.000          | 2.000               | -   | 2.000                | 2.000          | 2.000          | 2.000   | 2.000                      | 0.000                   | 10.000            |

**Note**

This is a new start in FY2021.

This Project is a New Start for Fiscal Year 2021 (FY21).

**A. Mission Description and Budget Item Justification**

This Project researches novel methods for detecting and defeating Improvised Explosive Devices (IED) as well as research into emerging IED threats to evaluate potential methods of defeat.

This Project is executed by the Army Futures Command (AFC) in coordination with the Under Secretary of Defense for Research and Engineering (USD/R&E) and the Defense Threat Reduction Agency (DTRA).

Work in this Project was previously conducted under PE 0602134BR, Improvised Threat Reduction Applied Research.

**B. Accomplishments/Planned Programs (\$ in Millions)**

|  |                |                |                |
|--|----------------|----------------|----------------|
|  | <b>FY 2019</b> | <b>FY 2020</b> | <b>FY 2021</b> |
| <b>Title:</b> Counter IED Emerging Technologies  | -              | -              | 2.000          |
| <b>Description:</b> This effort investigates emerging technologies to include physics, chemistry, biology and computer science to identify applications to detect current and emerging IED threats and defeat their critical components. This effort investigates novel methods and technology solutions for the detection and defeat of IEDs through the systematic identification and maturation of technologies capable of defeating these threats. The goals include increasing the distance for standoff detection, improving the probability of positive identification and reducing the rate of false indications. This effort is informed by technology trends across the Department of Defense and by analysis of IED threats encountered in operational scenarios. |                |                |                |
| <b>FY 2021 Plans:</b><br>Will investigate emerging technologies to include physics, chemistry, biology and computer science to identify novel techniques to detect current and emerging IED threats and defeat their critical components. Will evaluate multiple technologies to assess their ability to counter IED threats in laboratory environments and transition promising technologies to PE 0603134BR Counter Improvised-Threat Simulation, Project CD3 Counter Improvised-Threat Simulation.  |                |                |                |
| <b>FY 2020 to FY 2021 Increase/Decrease Statement:</b>   |                |                |                |

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| <b>Appropriation/Budget Activity</b><br>2040 / 2                   | <b>R-1 Program Element (Number/Name)</b><br>PE 0602134A / <i>Counter Improvised-Threat Advanced Studies</i> | <b>Project (Number/Name)</b><br>CD2 / <i>Counter Improvised-Threat Advanced Studies</i> |

| <b>B. Accomplishments/Planned Programs (\$ in Millions)</b>   | <b>FY 2019</b> | <b>FY 2020</b> | <b>FY 2021</b> |
|---|----------------|----------------|----------------|
| This effort is a transfer from PE 0602134BR Counter Improvised-Threat Applied Research, as a result of the transfer of Counter-IED (C-IED) Research, Development, Test, and Evaluation (RDTE) activities to the Army. |                |                |                |
| <b>Accomplishments/Planned Programs Subtotals</b>   | -              | -              | 2.000          |

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

N/A

**Remarks**

**D. Acquisition Strategy**

N/A