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**Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Army** **Date:** March 2024

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| <b>Appropriation/Budget Activity</b><br>2040: <i>Research, Development, Test &amp; Evaluation, Army / BA 1: Basic Research</i> | <b>R-1 Program Element (Number/Name)</b><br>PE 0601103A / <i>University Research Initiatives</i> |
|--|--|

| COST (\$ in Millions)           | Prior Years | FY 2023 | FY 2024 | FY 2025 Base | FY 2025 OCO | FY 2025 Total | FY 2026 | FY 2027 | FY 2028 | FY 2029 | Cost To Complete | Total Cost |
|---------------------------------|-------------|---------|---------|--------------|-------------|---------------|---------|---------|---------|---------|------------------|------------|
| Total Program Element           | -           | 97.598  | 75.672  | 78.166       | -           | 78.166        | 79.907  | 81.617  | 83.972  | 84.811  | 0.000            | 581.743    |
| AB3: <i>MURI/PECASE/DURIP</i>   | -           | 67.598  | 75.672  | 78.166       | -           | 78.166        | 79.907  | 81.617  | 83.972  | 84.811  | 0.000            | 551.743    |
| D58: <i>URI ACTIVITIES (CA)</i> | -           | 30.000  | -       | -            | -           | -             | -       | -       | -       | -       | 0.000            | 30.000     |

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

This Program Element (PE) supports the Multidisciplinary University Research Initiative (MURI), the Defense University Research Instrumentation Program (DURIP), and the Presidential Early Career Awards for Scientists and Engineers (PECASE) program. The MURI program funds university based basic research in a wide range of scientific and engineering disciplines pertinent to maintaining land combat technology superiority. Army MURI efforts involve teams of researchers investigating high-priority, transformational topics that intersect more than one traditional technical discipline (e.g., Intelligent Luminescence for Communication, Display, and Identification). For many complex problems, this multidisciplinary approach serves to accelerate research progress and expedite transition of results to application. The DURIP provides funds to acquire major research equipment to augment current, or devise new, research capabilities in support of Army transformational research. The PECASE program funds single-investigator research efforts performed by outstanding academic scientists and engineers early in their independent research careers.

Work in this PE provides a foundation for applied research initiatives at the Army laboratories and research, development and engineering centers.

The cited work is consistent with the Under Secretary of Defense for Research and Engineering priority focus areas and the Army Modernization Strategy.

| <b>B. Program Change Summary (\$ in Millions)</b> | <b>FY 2023</b> | <b>FY 2024</b> | <b>FY 2025 Base</b> | <b>FY 2025 OCO</b> | <b>FY 2025 Total</b> |
|---|----------------|----------------|---------------------|--------------------|----------------------|
| Previous President's Budget                       | 107.160        | 75.672         | 78.009              | -                  | 78.009               |
| Current President's Budget                        | 97.598         | 75.672         | 78.166              | -                  | 78.166               |
| Total Adjustments                                 | -9.562         | 0.000          | 0.157               | -                  | 0.157                |
| • Congressional General Reductions                | -              | -              | -                   | -                  | -                    |
| • Congressional Directed Reductions               | -              | -              | -                   | -                  | -                    |
| • Congressional Rescissions                       | -              | -              | -                   | -                  | -                    |
| • Congressional Adds                              | -              | -              | -                   | -                  | -                    |
| • Congressional Directed Transfers                | -              | -              | -                   | -                  | -                    |
| • Reprogrammings                                  | -7.001         | -              | -                   | -                  | -                    |
| • SBIR/STTR Transfer                              | -2.561         | -              | -                   | -                  | -                    |
| • Adjustments to Budget Years                     | -              | -              | 0.157               | -                  | 0.157                |

**Congressional Add Details (\$ in Millions, and Includes General Reductions)**

**Project:** D58: *URI ACTIVITIES (CA)*

| FY 2023 | FY 2024 |
|---------|---------|
|         |         |

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| <b>Exhibit R-2, RDT&amp;E Budget Item Justification:</b> PB 2025 Army | <b>Date:</b> March 2024 |
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| <b>Appropriation/Budget Activity</b><br>2040: <i>Research, Development, Test &amp; Evaluation, Army / BA 1: Basic Research</i> | <b>R-1 Program Element (Number/Name)</b><br>PE 0601103A / <i>University Research Initiatives</i> |
|--|--|

| <b>Congressional Add Details (\$ in Millions, and Includes General Reductions)</b>               | <b>FY 2023</b> | <b>FY 2024</b> |
|--|----------------|----------------|
| Congressional Add: <i>Program Increase - Defense University Research Instrumentation Program</i> | 30.000         | -              |
| Congressional Add Subtotals for Project: D58   | 30.000         | -              |
| Congressional Add Totals for all Projects  | 30.000         | -              |

**Change Summary Explanation**

Minor increase in FY25 funding from the previous PB to the current PB due to economic assumptions.

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|  |                    |                |                |                     |  |                      |                |                |  |                         |                         |                   |
|--|--------------------|----------------|----------------|---------------------|--|----------------------|----------------|----------------|--|-------------------------|-------------------------|-------------------|
| <b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2025 Army |                    |                |                |                     |  |                      |                |                |  | <b>Date:</b> March 2024 |                         |                   |
| <b>Appropriation/Budget Activity</b><br>2040 / 1                   |                    |                |                |                     | <b>R-1 Program Element (Number/Name)</b><br>PE 0601103A / <i>University Research Initiatives</i> |                      |                |                | <b>Project (Number/Name)</b><br>AB3 / <i>MURI/PECASE/DURIP</i> |                         |                         |                   |
| <b>COST (\$ in Millions)</b>                                       | <b>Prior Years</b> | <b>FY 2023</b> | <b>FY 2024</b> | <b>FY 2025 Base</b> | <b>FY 2025 OCO</b>   | <b>FY 2025 Total</b> | <b>FY 2026</b> | <b>FY 2027</b> | <b>FY 2028</b>   | <b>FY 2029</b>          | <b>Cost To Complete</b> | <b>Total Cost</b> |
| AB3: <i>MURI/PECASE/DURIP</i>                                      | -                  | 67.598         | 75.672         | 78.166              | -  | 78.166               | 79.907         | 81.617         | 83.972   | 84.811                  | 0.000                   | 551.743           |

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

This Project supports the Multidisciplinary University Research Initiative (MURI), the Defense University Research Instrumentation Program (DURIP), and the Presidential Early Career Awards for Scientists and Engineers (PECASE) program. The MURI program funds university based basic research in a wide range of scientific and engineering disciplines pertinent to maintaining land combat technology superiority. Army MURI efforts involve teams of researchers investigating high-priority, transformational topics that intersect more than one traditional technical discipline. For many complex problems, this multidisciplinary approach serves to accelerate research progress and expedite transition of results to application. The DURIP provides funds to acquire major research equipment to augment current, or devise new, research capabilities in support of Army transformational research. The PECASE program funds single-investigator research efforts performed by outstanding academic scientists and engineers early in their research careers.

Work in this Project provides a foundation for applied research initiatives at the Army laboratories and centers.

The cited work is consistent with the Under Secretary of Defense for Research and Engineering priority focus areas and the Army Modernization Strategy.

Work in this Project is performed by the Army Research Laboratory (ARL).

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

|   | <b>FY 2023</b> | <b>FY 2024</b> | <b>FY 2025</b> |
|---|----------------|----------------|----------------|
| <b>Title:</b> Multidisciplinary University Research Initiative  | 55.199         | 62.204         | 63.955         |
| <p><b>Description:</b> The Multidisciplinary University Research Initiative (MURI) program is a tri-service Department of Defense (DoD) program that supports extramural teams whose basic research efforts intersect more than one traditional science and engineering discipline. A multidisciplinary team effort, usually from several collaborating universities, can accelerate research progress in areas particularly suited to this approach by cross fertilization of ideas, hasten the transition of basic research findings to practical applications, and help to train students in science, technology and/or engineering in areas of importance to DoD. MURI programs are typically five years in length at a cost of \$1.25 million each per year.</p> <p><b>FY 2024 Plans:</b><br/>Will provide continued support for active MURI efforts made in prior years, and award eight to ten FY24 MURI efforts at a cost of \$1.5 million each per year to enable advances in select interdisciplinary basic science and/or engineering research areas determined to be of critical importance to national defense.</p> <p><b>FY 2025 Plans:</b></p> |                |                |                |

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| <b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2025 Army  |  | <b>Date:</b> March 2024                                 |                |                |
| <b>Appropriation/Budget Activity</b><br>2040 / 1  | <b>R-1 Program Element (Number/Name)</b><br>PE 0601103A / <i>University Research Initiatives</i> | <b>Project (Number/Name)</b><br>AB3 / MURI/PECASE/DURIP |                |                |
| <b>B. Accomplishments/Planned Programs (\$ in Millions)</b>   |  | <b>FY 2023</b>  | <b>FY 2024</b> | <b>FY 2025</b> |
| <p>Will provide continued support for active MURI efforts made in prior years, and award eight to ten FY25 MURI efforts at a cost of \$1.5 million each per year, with special consideration of basic research topics in support of the Office of the Under Secretary of Defense For Research And Engineering 2022 Strategic Vision and Critical Technology Areas including biotechnology, quantum science, future generation wireless technology, advanced materials, trusted artificial intelligence/machine learning (AI/ML) and autonomy, integrated network system-of-systems, microelectronics, space technology, renewable energy generation and storage, advanced computing, and software.</p> <p><b>FY 2024 to FY 2025 Increase/Decrease Statement:</b><br/>Funding increase in FY 2025 supports additional MURI awards that execute Army relevant research.</p> |  |   |                |                |
| <p><b>Title:</b> Presidential Early Career Awards for Scientists and Engineers</p> <p><b>Description:</b> Supports Presidential Early Career Awards for Scientists and Engineers (PECASE) investigators started in prior years as well as new award recipients.</p> <p><b>FY 2024 Plans:</b><br/>Will assess and recommend two PECASE candidates in FY24 and continue support for prior year awardees.</p> <p><b>FY 2025 Plans:</b><br/>Will assess and recommend two to four PECASE candidates in FY25 in support of the call for proposals to be released from the Office of the Under Secretary of Defense for Research and Engineering, and continue support for prior year awardees.</p> <p><b>FY 2024 to FY 2025 Increase/Decrease Statement:</b><br/>Funding increase is an economic adjustment.</p>   |  | 4.611   | 5.061          | 5.793          |
| <p><b>Title:</b> Defense University Research Instrumentation Program</p> <p><b>Description:</b> Supports basic research through competitive grants for research instrumentation.</p> <p><b>FY 2024 Plans:</b><br/>Will assess and award competitive research instrumentation grants to enhance universities' capabilities to conduct world class research, and enhance educational capabilities critical to Army transformation and modernization.</p> <p><b>FY 2025 Plans:</b><br/>Will assess and award competitive research instrumentation grants to enhance universities' capabilities to conduct world class research and enhance educational capabilities critical to Army transformation and modernization.</p> <p><b>FY 2024 to FY 2025 Increase/Decrease Statement:</b></p>   |  | 7.788   | 8.407          | 8.418          |

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| <b>Appropriation/Budget Activity</b><br>2040 / 1                   | <b>R-1 Program Element (Number/Name)</b><br>PE 0601103A / <i>University Research Initiatives</i> | <b>Project (Number/Name)</b><br>AB3 / <i>MURI/PECASE/DURIP</i> |

| <b>B. Accomplishments/Planned Programs (\$ in Millions)</b> | <b>FY 2023</b> | <b>FY 2024</b> | <b>FY 2025</b> |
|---|----------------|----------------|----------------|
| Funding increase is an economic adjustment.                 |                |                |                |
| <b>Accomplishments/Planned Programs Subtotals</b>           | 67.598         | 75.672         | 78.166         |

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

N/A

**Remarks**

**D. Acquisition Strategy**

N/A

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**Exhibit R-2A, RDT&E Project Justification:** PB 2025 Army **Date:** March 2024

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|--|--|--|
| <b>Appropriation/Budget Activity</b><br>2040 / 1 | <b>R-1 Program Element (Number/Name)</b><br>PE 0601103A / <i>University Research Initiatives</i> | <b>Project (Number/Name)</b><br>D58 / <i>URI ACTIVITIES (CA)</i> |
|--|--|--|

| COST (\$ in Millions)           | Prior Years | FY 2023 | FY 2024 | FY 2025 Base | FY 2025 OCO | FY 2025 Total | FY 2026 | FY 2027 | FY 2028 | FY 2029 | Cost To Complete | Total Cost |
|---------------------------------|-------------|---------|---------|--------------|-------------|---------------|---------|---------|---------|---------|------------------|------------|
| D58: <i>URI ACTIVITIES (CA)</i> | -           | 30.000  | -       | -            | -           | -             | -       | -       | -       | -       | 0.000            | 30.000     |

**Note**

Congressional Interest Item.

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

Congressional Interest Item funding provided for University Research Initiatives.

The cited work is consistent with the Under Secretary of Defense for Research and Engineering priority focus areas and the Army Modernization Strategy.

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

|  | FY 2023 | FY 2024 |
|--|---------|---------|
| <b>Congressional Add:</b> Program Increase - Defense University Research Instrumentation Program                                     | 30.000  | -       |
| <b>FY 2023 Accomplishments:</b> Congressional Interest Item funding provided for Defense University Research Instrumentation Program |         |         |
| <b>Congressional Adds Subtotals</b>  | 30.000  | -       |

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

N/A

**Remarks**

**D. Acquisition Strategy**

N/A