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Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Army **Date:** March 2023

| Appropriation/Budget Activity 2040: <i>Research, Development, Test & Evaluation, Army / BA 7: Operational Systems Development</i> | | | | | R-1 Program Element (Number/Name) PE 0305204A / <i>Tactical Unmanned Aerial Vehicles</i> | | | | | | | |
|---|-------------|---------|---------|--------------|--|---------------|---------|---------|---------|---------|------------------|------------|
| COST (\$ in Millions) | Prior Years | FY 2022 | FY 2023 | FY 2024 Base | FY 2024 OCO | FY 2024 Total | FY 2025 | FY 2026 | FY 2027 | FY 2028 | Cost To Complete | Total Cost |
| Total Program Element | 0.000 | 8.410 | 4.500 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 12.910 |
| 11A: <i>Advanced Payload Develop & Spt</i> | - | 8.410 | 4.500 | - | - | - | - | - | - | - | 0.000 | 12.910 |

A. Mission Description and Budget Item Justification

Project 11A Advanced Payload Develop & Spt: The Advanced Payloads Development project is a shared funding line between multiple payload programs. These payload programs support the Army's transformation by developing Reconnaissance, Surveillance and Target Acquisition (RSTA) and Intelligence, Surveillance and Reconnaissance (ISR) payload systems for Brigade Combat Teams, Divisions, and Corps Unmanned Aircraft Systems (UAS). This is in accordance with Headquarters Department of the Army (HQDA) and Training and Doctrine Command (TRADOC) UAS priorities. Additionally, this Program Element (PE) supports Future Advanced Payloads for Army UAS systems.

Common Sensor Payload (CSP) - Electro Optical / Infrared / Laser Designator (EO/IR/LD) provides High Definition (HD) Full Motion Video (FMV) in both the Electro Optical and Mid Wave IR spectrums with day/night capability to collect and display continuous imagery and the ability to designate targets of interest for attack by laser guided precision weapons. It is the EO/IR/LD sensor for the Gray Eagle UAS which supports force applications, battlespace awareness, force protection, and net-centric operations across the battlefield to provide wide area, near real time RSTA capabilities. Current product improvements continue to focus on the development and implementation of the Target Location Accuracy (TLA) capabilities that directly support emerging requirements of the Army's Current and Future Force.

0305204A 11A has no Fiscal Year (FY) 2024 funding request.

| B. Program Change Summary (\$ in Millions) | FY 2022 | FY 2023 | FY 2024 Base | FY 2024 OCO | FY 2024 Total |
|---|----------------|----------------|---------------------|--------------------|----------------------|
| Previous President's Budget | 8.410 | 4.500 | 0.000 | - | 0.000 |
| Current President's Budget | 8.410 | 4.500 | 0.000 | - | 0.000 |
| Total Adjustments | 0.000 | 0.000 | 0.000 | - | 0.000 |
| • Congressional General Reductions | - | - | | | |
| • Congressional Directed Reductions | - | - | | | |
| • Congressional Rescissions | - | - | | | |
| • Congressional Adds | - | - | | | |
| • Congressional Directed Transfers | - | - | | | |
| • Reprogrammings | - | - | | | |
| • SBIR/STTR Transfer | - | - | | | |

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| Exhibit R-2A, RDT&E Project Justification: PB 2024 Army | | | | | | | | | | Date: March 2023 | | |
| Appropriation/Budget Activity 2040 / 7 | | | | | R-1 Program Element (Number/Name) PE 0305204A / <i>Tactical Unmanned Aerial Vehicles</i> | | | | Project (Number/Name) 11A / <i>Advanced Payload Develop & Spt</i> | | | |
| COST (\$ in Millions) | Prior Years | FY 2022 | FY 2023 | FY 2024 Base | FY 2024 OCO | FY 2024 Total | FY 2025 | FY 2026 | FY 2027 | FY 2028 | Cost To Complete | Total Cost |
| 11A: <i>Advanced Payload Develop & Spt</i> | - | 8.410 | 4.500 | - | - | - | - | - | - | - | 0.000 | 12.910 |
| Quantity of RDT&E Articles | - | - | - | - | - | - | - | - | - | - | | |

A. Mission Description and Budget Item Justification

The Advanced Payloads Development project is a shared funding line between multiple payload programs. These payload programs support the Army's transformation by developing Reconnaissance, Surveillance and Target Acquisition (RSTA) and Intelligence, Surveillance and Reconnaissance (ISR) payload systems for Brigade Combat Teams, Divisions, and Corps Unmanned Aircraft Systems (UAS). This is in accordance with Headquarters Department of the Army (HQDA) and Training and Doctrine Command (TRADOC) UAS priorities. Additionally, this Program Element (PE) supports Future Advanced Payloads for Army UAS systems.

Common Sensor Payload (CSP) - Acquisition Category (ACAT) III - Electro Optical / Infrared / Laser Designator (EO/IR/LD) provides Standard Definition (SD) or High Definition (HD) Full Motion Video (FMV) in both the Electro Optical and Mid Wave IR spectrums. These systems provide day/night capability to collect and display continuous imagery and the ability to designate targets of interest for attack by laser guided precision weapons. It is the EO/IR/LD sensor for the Gray Eagle UAS which supports intelligence gathering, force applications, battlespace awareness, force protection, and net-centric operations across the battlefield to provide wide area, near real time RSTA capabilities.

0305204A 11A has no Fiscal Year (FY) 2024 funding request.

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

| | FY 2022 | FY 2023 | FY 2024 |
|--|----------------|----------------|----------------|
| Title: CSP Increased Usability and Lethality | 8.410 | 4.500 | - |
| Description: Software and Hardware developments to increase lethality and usability of the CSP while reducing cognitive burden on the Warfighter. | | | |
| FY 2023 Plans: Funds the completion of testing the Target Location Accuracy (TLA) upgrade to the CSP. | | | |
| FY 2023 to FY 2024 Increase/Decrease Statement: Decrease due to no FY 2024 funding request. | | | |
| Accomplishments/Planned Programs Subtotals | 8.410 | 4.500 | - |

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| Appropriation/Budget Activity 2040 / 7 | R-1 Program Element (Number/Name) PE 0305204A / <i>Tactical Unmanned Aerial Vehicles</i> | Project (Number/Name) 11A / <i>Advanced Payload Develop & Spt</i> |

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

| <u>Line Item</u> | <u>FY 2022</u> | <u>FY 2023</u> | <u>FY 2024</u> <u>Base</u> | <u>FY 2024</u> <u>OCO</u> | <u>FY 2024</u> <u>Total</u> | <u>FY 2025</u> | <u>FY 2026</u> | <u>FY 2027</u> | <u>FY 2028</u> | <u>Cost To</u> <u>Complete</u> | <u>Total Cost</u> |
|--------------------------|----------------|----------------|-------------------------------|------------------------------|--------------------------------|----------------|----------------|----------------|----------------|-----------------------------------|-------------------|
| • A01005: <i>CSP FMV</i> | - | 72.700 | 13.650 | - | 13.650 | - | - | - | - | 0.000 | 86.350 |

Remarks

D. Acquisition Strategy

The Enhanced Electro-Optical (EO)/Infrared (IR) Capability Production Document, approved 19 December 2016, defines additional Key Performance Parameter (KPP) requirements for the Full Motion Video (FMV) sensor on the Gray Eagle platform. The first KPP increases detection, recognition, and identification requirements which can only be met with the High Definition (HD) variation of the Common Sensor Payload (CSP). Currently, units are being fielded with HD CSPs, with additional HD CSPs in production and retrofit. The second KPP requirement is for the CSP to be a metric sensor providing rapid and enhanced Target Location Accuracy (TLA). A five (5) year follow-on production and system support contract was awarded in 2019 for integration, test, upgrade, and sustainment of these enhanced capabilities. The FY 2023 acquisition strategy for CSP includes the completion of testing supporting CSP-TLA development

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| Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Army | | | | | | | | | | | | Date: March 2023 | | | | |
|--|------------------------|--------------------------------------|-------------|---|------------|---------|------------|--------------------------------------|------------|-------------|------------|------------------|------------------|------------|--------------------------|--|
| Appropriation/Budget Activity | | | | R-1 Program Element (Number/Name) | | | | Project (Number/Name) | | | | | | | | |
| 2040 / 7 | | | | PE 0305204A / Tactical Unmanned Aerial Vehicles | | | | 11A / Advanced Payload Develop & Spt | | | | | | | | |
| Management Services (\$ in Millions) | | | | FY 2022 | | FY 2023 | | FY 2024 Base | | FY 2024 OCO | | FY 2024 Total | | | | |
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Prior Years | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract | |
| CSP Program Management | MIPR | PM EOIR : Fort Belvoir, VA | 6.595 | 1.761 | Feb 2022 | 0.290 | Dec 2022 | - | | - | | - | 0.000 | 8.646 | - | |
| Subtotal | | | 6.595 | 1.761 | | 0.290 | | - | | - | | - | 0.000 | 8.646 | N/A | |
| Product Development (\$ in Millions) | | | | FY 2022 | | FY 2023 | | FY 2024 Base | | FY 2024 OCO | | FY 2024 Total | | | | |
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Prior Years | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract | |
| CSP HW/SW Improvements Reduce Cognitive Burden | MIPR | Night Vision Labs : Fort Belvoir, VA | 4.590 | - | | - | | - | | - | | - | 0.000 | 4.590 | - | |
| CSP Target Location Accuracy (TLA) | SS/CPFF | Raytheon : McKinney, TX | 35.508 | 0.025 | Feb 2022 | - | | - | | - | | - | 0.000 | 35.533 | - | |
| CSP TLA Integration | MIPR | Various : Various | 11.101 | 0.631 | Apr 2022 | - | | - | | - | | - | 0.000 | 11.732 | - | |
| Training Development | TBD | i3 : Huntsville, AL | - | 0.878 | Apr 2022 | 0.640 | Apr 2023 | - | | - | | - | 0.000 | 1.518 | - | |
| Subtotal | | | 51.199 | 1.534 | | 0.640 | | - | | - | | - | 0.000 | 53.373 | N/A | |
| Test and Evaluation (\$ in Millions) | | | | FY 2022 | | FY 2023 | | FY 2024 Base | | FY 2024 OCO | | FY 2024 Total | | | | |
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Prior Years | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Cost To Complete | Total Cost | Target Value of Contract | |
| CSP Testing (TLA) | MIPR | Various : Various | - | 0.583 | Apr 2022 | 3.570 | Nov 2022 | - | | - | | - | 0.000 | 4.153 | - | |
| CSP Qual Testing (TLA) | SS/CPFF | Raytheon : McKinney, TX | 5.201 | - | | - | | - | | - | | - | 0.000 | 5.201 | - | |
| CSP TLA NGA Validation | SS/TBD | General Atomics : Poway, CA | - | 4.532 | Aug 2022 | - | | - | | - | | - | 0.000 | 4.532 | - | |
| Subtotal | | | 5.201 | 5.115 | | 3.570 | | - | | - | | - | 0.000 | 13.886 | N/A | |

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| Exhibit R-4, RDT&E Schedule Profile: PB 2024 Army | | Date: March 2023 |
| Appropriation/Budget Activity 2040 / 7 | R-1 Program Element (Number/Name) PE 0305204A / <i>Tactical Unmanned Aerial Vehicles</i> | Project (Number/Name) 11A / <i>Advanced Payload Develop & Spt</i> |

| Event Name | FY 2022 | | | | FY 2023 | | | | FY 2024 | | | | FY 2025 | | | | FY 2026 | | | | FY 2027 | | | | FY 2028 | | | |
|------------------------------|---------|---|---|---|---------|---|---|---|---------|---|---|---|---------|---|---|---|---------|---|---|---|---------|---|---|---|---------|---|---|---|
| | 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 |
| CSP HD (EO/IR/LD) Production | █ | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| CSP HD Production | █ | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| CSP HD Retrofit (Proc) | █ | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| CSP HD Retrofit | █ | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| CSP TLA Development | █ | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| CSP TLA Development | █ | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| CSP TLA Testing | █ | | | | █ | | | | | | | | | | | | | | | | | | | | | | | |
| CSP TLA Testing | █ | | | | █ | | | | | | | | | | | | | | | | | | | | | | | |
| CSP TLA Integration | | | | | █ | | | | | | | | | | | | | | | | | | | | | | | |
| CSP TLA Integration | | | | | █ | | | | | | | | | | | | | | | | | | | | | | | |
| CSP TLA NGA Validation | | | | | | | | | █ | | | | | | | | | | | | | | | | | | | |
| CSP TLA NGA Validation | | | | | | | | | █ | | | | | | | | | | | | | | | | | | | |
| CSP TLA Production Decision | | | | | | | | | | | | | ▲ | | | | | | | | | | | | | | | |
| CSP TLA Production Decision | | | | | | | | | | | | | ▲ | | | | | | | | | | | | | | | |
| CSP TLA Procurement | | | | | | | | | | | | | █ | | | | | | | | | | | | | | | |
| CSP TLA Procurement | | | | | | | | | | | | | █ | | | | | | | | | | | | | | | |

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| Exhibit R-4A, RDT&E Schedule Details: PB 2024 Army | | Date: March 2023 |
| Appropriation/Budget Activity 2040 / 7 | R-1 Program Element (Number/Name) PE 0305204A / <i>Tactical Unmanned Aerial Vehicles</i> | Project (Number/Name) 11A / <i>Advanced Payload Develop & Spt</i> |

Schedule Details

| Events | Start | | End | |
|--|---------|------|---------|------|
| | Quarter | Year | Quarter | Year |
| CSP HD (EO/IR/LD) Production | 2 | 2013 | 4 | 2022 |
| CSP HD Retrofit (Proc) | 4 | 2013 | 4 | 2022 |
| CSP HW/SW Improvements Reduce Cognitive Burden Development | 1 | 2016 | 4 | 2021 |
| CSP HW/SW Improvements Reduce Cognitive Burden Testing / Integration | 3 | 2017 | 4 | 2020 |
| CSP TLA Development | 4 | 2018 | 4 | 2022 |
| CSP TLA PDR/CDR | 1 | 2020 | 1 | 2020 |
| CSP TLA Testing | 1 | 2022 | 3 | 2023 |
| CSP TLA Integration | 3 | 2023 | 1 | 2024 |
| CSP TLA NGA Validation | 2 | 2024 | 3 | 2024 |
| CSP TLA Production Decision | 4 | 2024 | 4 | 2024 |
| CSP TLA Procurement | 4 | 2024 | 4 | 2026 |