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

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| Appropriation/Budget Activity 2040: <i>Research, Development, Test & Evaluation, Army / BA 4: Advanced Component Development & Prototypes (ACD&P)</i> | R-1 Program Element (Number/Name) PE 0604103A / <i>Electronic Warfare Planning and Management Tool (EWPMT)</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 | - | - | 2.260 | 2.004 | - | 2.004 | 1.628 | 1.753 | 1.002 | 1.012 | Continuing | Continuing |
| DG4: NAVWAR SA | - | - | 2.260 | 2.004 | - | 2.004 | 1.628 | 1.753 | 1.002 | 1.012 | Continuing | Continuing |

A. Mission Description and Budget Item Justification

Adversaries, in recognition of Joint and Coalition force Positioning, Navigation, and Timing (PNT) dependencies, are aggressively developing and fielding counter-PNT technologies that significantly reduce the Army's ability to access the electromagnetic spectrum (EMS) to conduct military operations. The Army is actively pursuing Navigation Warfare Situational Awareness (NAVWAR-SA) capabilities to provide soldiers with PNT overmatch by countering the effects of jamming and denying adversary access to PNT services. NAVWAR-SA is a system of systems approach to detecting, geolocating, and determining the impact area of Global Positioning System (GPS) in a contested environment and the effects on PNT on the battlefield.

NAVWAR-SA provides commanders and soldiers with indications and warnings of PNT jamming to: provide immediate notification to individual PNT users that their navigation and timing may be compromised by jamming or spoofing; detect, identify, and locate sources of PNT interference; allow command and control (C2) systems to display areas affected by interference with actionable information necessary to implement measures to mitigate or eliminate the threat. NAVWAR-SA supports Multi-Domain Operations (MDO) as an enabler to precision fires, movement and maneuver, force tracking, and a host of data networks that tie personnel and weapon systems together into a joint or coalition force.

Approved Requirements: Abbreviated Capabilities Development Document (A-CDD) for NAVWAR-SA, 25 March 2021

| B. Program Change Summary (\$ in Millions) | FY 2023 | FY 2024 | FY 2025 Base | FY 2025 OCO | FY 2025 Total |
|---|---------|---------|--------------|-------------|---------------|
| Previous President's Budget | 0.000 | 2.260 | 0.000 | - | 0.000 |
| Current President's Budget | 0.000 | 2.260 | 2.004 | - | 2.004 |
| Total Adjustments | 0.000 | 0.000 | 2.004 | - | 2.004 |
| • Congressional General Reductions | - | - | | | |
| • Congressional Directed Reductions | - | - | | | |
| • Congressional Rescissions | - | - | | | |
| • Congressional Adds | - | - | | | |
| • Congressional Directed Transfers | - | - | | | |
| • Reprogrammings | - | - | | | |
| • SBIR/STTR Transfer | - | - | | | |
| • Adjustments to Budget Years | - | - | 2.004 | - | 2.004 |

Change Summary Explanation

Increase in FY25 due to transition, integration and demonstration of the Navigation Warfare Situational Awareness (NAVWAR-SA) Plexus software.

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| Exhibit R-2A, RDT&E Project Justification: PB 2025 Army | | | | | | | | | | Date: March 2024 | | |
| Appropriation/Budget Activity 2040 / 4 | | | | | R-1 Program Element (Number/Name) PE 0604103A / <i>Electronic Warfare Planning and Management Tool (EWPMT)</i> | | | | Project (Number/Name) DG4 / NAVWAR SA | | | |
| 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 |
| DG4: NAVWAR SA | - | - | 2.260 | 2.004 | - | 2.004 | 1.628 | 1.753 | 1.002 | 1.012 | Continuing | Continuing |
| Quantity of RDT&E Articles | - | - | - | - | - | - | - | - | - | - | | |

A. Mission Description and Budget Item Justification

Adversaries, in recognition of Joint and Coalition force Positioning, Navigation, and Timing (PNT) dependencies, are aggressively developing and fielding counter-PNT technologies that significantly reduce the Army's ability to access the electromagnetic spectrum (EMS) to conduct military operations. The Army is actively pursuing Navigation Warfare Situational Awareness (NAVWAR-SA) capabilities to provide soldiers with PNT overmatch by countering the effects of jamming and denying adversary access to PNT services. NAVWAR-SA is a system of systems approach to detecting, geolocating, and determining the impact area of Global Positioning System (GPS) in a contested environment and the effects on PNT on the battlefield.

NAVWAR-SA provides commanders and soldiers with indications and warnings of PNT jamming to: provide immediate notification to individual PNT users that their navigation and timing may be compromised by jamming or spoofing; detect, identify, and locate sources of PNT interference; allow command and control (C2) systems to display areas affected by interference with actionable information necessary to implement measures to mitigate or eliminate the threat. NAVWAR-SA supports Multi-Domain Operations (MDO) as an enabler to precision fires, movement and maneuver, force tracking, and a host of data networks that tie personnel and weapon systems together into a joint or coalition force.

Fiscal Year (FY) 2025 funds in the amount of \$2.004 million continues the transition and integration of the Navigation Warfare Situational Awareness (NAVWAR-SA) software.

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

| | FY 2023 | FY 2024 | FY 2025 |
|--|----------------|----------------|----------------|
| Title: NAVWAR SA | - | 2.260 | 2.004 |
| Description: The integration of Navigation Warfare Situational Awareness (NAVWAR-SA) Plexus software into the Electromagnetic Warfare Planning and Management Tool (EWPMT) includes the development of Application Program Interfaces (API) and testing. The Tactical Navigation Warfare (NAVWAR) Plexus preserves the effectiveness of Maneuvers and Fires missions by enabling the Commander to understand when Global Positioning System (GPS) jammers are present, where they are located, and what areas they are impacting. | | | |
| FY 2024 Plans: - Initiate transition and integration of NAVWAR-SA software into EWPMT software baseline, develop API, and test. | | | |
| FY 2025 Plans: Continue software integration effort and demonstration. | | | |
| FY 2024 to FY 2025 Increase/Decrease Statement: | | | |

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| Exhibit R-2A, RDT&E Project Justification: PB 2025 Army | Date: March 2024 |
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| Appropriation/Budget Activity 2040 / 4 | R-1 Program Element (Number/Name) PE 0604103A / <i>Electronic Warfare Planning and Management Tool (EWPMT)</i> | Project (Number/Name) DG4 / NAVWAR SA |
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| B. Accomplishments/Planned Programs (\$ in Millions) | FY 2023 | FY 2024 | FY 2025 |
|---|----------------|----------------|----------------|
| Fiscal Year (FY) 2025 decrease of \$0.256 Million is due to completion of most of the software integration effort and concentration on the demonstration. | | | |
| Accomplishments/Planned Programs Subtotals | - | 2.260 | 2.004 |

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

| Line Item | 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 |
|---|----------------|----------------|-------------------------|------------------------|--------------------------|----------------|----------------|----------------|----------------|-----------------------------|-------------------|
| • AV8: <i>Navigation Warfare (NAVWAR) Advanced Technology</i> | 1.949 | 6.029 | 3.988 | - | 3.988 | 6.036 | 5.352 | 10.955 | 15.494 | 0.000 | 49.803 |

Remarks

D. Acquisition Strategy
 The Navigation Warfare Situational Awareness (NAVWAR-SA) acquisition strategy utilizes a mix of competitive Federal Acquisition Regulation contracts and Other Transaction Authority agreements to accelerate critical NAVWAR-SA technology development of an operationally relevant system to Army forces and Army Special Operations Forces (ARSOF) with tactically relevant, near-real-time indications and warning of signal integrity issues, adversary jamming or spoofing activity and other PNT interference or integrity issues. This approach leverages commercial and government technical solutions to enable rapid prototyping and experimentation of systems and assess operational feedback and Soldier touchpoints of developmental solutions to validate military utility. This will include the assessment of current Army spectrum visualization tools, mounted and dismounted Assured PNT (APNT) system receivers and electromagnetic warfare support (ES) capabilities. The NAVWAR-SA strategy will utilize the buy, try, and decide process to accelerate the development of these critical enabling technologies and streamline the process of transitioning and fielding a scalable, interoperable and agile capability. This process will also inform a follow on NAVWAR-SA Capabilities Development Document (CDD).

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2025 Army **Date:** March 2024

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| Appropriation/Budget Activity 2040 / 4 | R-1 Program Element (Number/Name) PE 0604103A / <i>Electronic Warfare Planning and Management Tool (EWPMT)</i> | Project (Number/Name) DG4 / NAVWAR SA |
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| Management Services (\$ in Millions) | | | | FY 2023 | | FY 2024 | | FY 2025 Base | | FY 2025 OCO | | FY 2025 Total | Cost To Complete | Total Cost | Target Value of Contract |
|---|------------------------|---|-------------|---------|------------|---------|------------|--------------|------------|-------------|------------|---------------|------------------|------------|--------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Prior Years | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | | | |
| Program Management & Technical Support | Various | PM Positioning, Navigation & Timing : Aberdeen Proving Ground, MD | - | - | - | | | 0.130 | Feb 2025 | - | | 0.130 | 0.000 | 0.130 | Continuing |
| Subtotal | | | - | - | - | | | 0.130 | | - | | 0.130 | 0.000 | 0.130 | N/A |

| Product Development (\$ in Millions) | | | | FY 2023 | | FY 2024 | | FY 2025 Base | | FY 2025 OCO | | FY 2025 Total | Cost To Complete | Total Cost | Target Value of Contract |
|---|------------------------|--------------------------------|-------------|---------|------------|---------|------------|--------------|------------|-------------|------------|---------------|------------------|------------|--------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Prior Years | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | | | |
| Contract -Fielding, Training, Support & Product Improvement | C/CPFF | TBD : TBD | - | - | | 1.000 | Apr 2024 | 1.546 | Dec 2024 | - | | 1.546 | 0.000 | 2.546 | Continuing |
| Subtotal | | | - | - | 1.000 | | | 1.546 | | - | | 1.546 | 0.000 | 2.546 | N/A |

Remarks
Fiscal Year (FY) 2025 funds in the amount of \$1.546 Million for the continued transition and integration of the Navigation Warfare Situational Awareness (NAVWAR-SA) software.

| Support (\$ in Millions) | | | | FY 2023 | | FY 2024 | | FY 2025 Base | | FY 2025 OCO | | FY 2025 Total | Cost To Complete | Total Cost | Target Value of Contract |
|-----------------------------------|------------------------|--------------------------------|-------------|---------|------------|---------|------------|--------------|------------|-------------|------------|---------------|------------------|------------|--------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Prior Years | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | | | |
| Technical and Engineering Support | Various | Various : Variou | - | - | | 1.260 | Nov 2023 | 0.328 | Dec 2024 | - | | 0.328 | 0.000 | 1.588 | Continuing |
| Subtotal | | | - | - | 1.260 | | | 0.328 | | - | | 0.328 | 0.000 | 1.588 | N/A |

Remarks
FY25 funds in the amount of \$0.328 Million provides subject matter expertise to facilitate with completion of NAVWAR-SA integration effort and demonstration.

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| Exhibit R-4, RDT&E Schedule Profile: PB 2025 Army | | | Date: March 2024 |
| Appropriation/Budget Activity 2040 / 4 | R-1 Program Element (Number/Name) PE 0604103A / <i>Electronic Warfare Planning and Management Tool (EWPMT)</i> | Project (Number/Name) DG4 / NAVWAR SA | |

| Event Name | FY 2023 | | | | FY 2024 | | | | FY 2025 | | | | FY 2026 | | | | FY 2027 | | | | FY 2028 | | | | FY 2029 | | | |
|---|---------|---|---|---|---------|---|---|---|---------|---|---|---|---------|---|---|---|---------|---|---|---|---------|---|---|---|---------|---|---|---|
| | 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 |
| NAVWAR-SA Transition Initiation & Integration | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| NAVWAR-SA Demonstration | | | | | | | | | ▲ 1 | | | | | | | | | | | | | | | | | | | |
| NAVWAR-SA prototyping and operational assessments | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

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| Exhibit R-4A, RDT&E Schedule Details: PB 2025 Army | | Date: March 2024 |
| Appropriation/Budget Activity 2040 / 4 | R-1 Program Element (Number/Name) PE 0604103A / <i>Electronic Warfare Planning and Management Tool (EWPMT)</i> | Project (Number/Name) DG4 / NAVWAR SA |

Schedule Details

| Events | Start | | End | |
|---|---------|------|---------|------|
| | Quarter | Year | Quarter | Year |
| NAVWAR-SA Transition Initiation & Integration | 1 | 2024 | 3 | 2025 |
| NAVWAR-SA Demonstration | 3 | 2025 | 3 | 2025 |
| NAVWAR-SA prototyping and operational assessments | 3 | 2025 | 4 | 2028 |