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| Exhibit R-2, RDT&E Budget Item Justification: PB 2019 Army | | | | | | | | | | Date: February 2018 | | |
|--|-------------|---------|---------|--------------|--|---------------|---------|---------|---------|---------------------|------------------|------------|
| Appropriation/Budget Activity | | | | | R-1 Program Element (Number/Name) | | | | | | | |
| 2040: Research, Development, Test & Evaluation, Army / BA 5: System Development & Demonstration (SDD) | | | | | PE 0604798A / Brigade Analysis, Integration and Evaluation | | | | | | | |
| COST (\$ in Millions) | Prior Years | FY 2017 | FY 2018 | FY 2019 Base | FY 2019 OCO | FY 2019 Total | FY 2020 | FY 2021 | FY 2022 | FY 2023 | Cost To Complete | Total Cost |
| Total Program Element | - | 101.927 | 145.360 | 49.288 | - | 49.288 | 59.097 | 59.815 | 60.491 | 61.459 | 0.000 | 537.437 |
| DY3: NIE Test & Evaluation | - | 41.885 | 58.395 | 22.683 | - | 22.683 | 23.530 | 23.677 | 23.541 | 23.508 | 0.000 | 217.219 |
| DY5: Production/Field Coordination for Capability Sets | - | 4.660 | 4.261 | 4.242 | - | 4.242 | 4.301 | 4.391 | 4.369 | 4.462 | 0.000 | 30.686 |
| DY7: Army Systems Engineering, Architecture & Analysis | - | 18.802 | 15.508 | 15.610 | - | 15.610 | 24.377 | 24.760 | 25.449 | 25.939 | 0.000 | 150.445 |
| DZ6: Army Integration Management & Coordination | - | 8.915 | 6.775 | 6.753 | - | 6.753 | 6.889 | 6.987 | 7.132 | 7.550 | 0.000 | 51.001 |
| FG7: Emerging Technology Initiatives | - | 27.665 | 60.421 | 0.000 | - | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 88.086 |
| Note | | | | | | | | | | | | |
| Project FG7 Emerging Technology Initiatives was created in support of the Army Rapid Capabilities Office (RCO). This project was realigned to PE 0605054A Emerging Technologies Initiatives in FY 2019 for greater transparency of the Army RCO efforts. | | | | | | | | | | | | |
| A. Mission Description and Budget Item Justification | | | | | | | | | | | | |
| This program element is comprised of five projects: Network Integration Evaluation (NIE) Test and Evaluation; Production/Field Coordination for Capability Sets; Army Systems Engineering, Architecture & Analysis; Army Integration Management & Coordination; and Emerging Technology Initiatives. The specific evaluation requirements will support Mission Command Network 2020, Force 2025 objectives, and emerging technology insertion. | | | | | | | | | | | | |
| Project DY3: Network Integration Evaluation (NIE) Test & Evaluation, synchronizes, integrates, and manages system and System of Systems (SoS) network capability evaluations in laboratory and operational environments in order to inform Army force modernization decisions that impact network improvements, interoperability compliance, operational readiness, and exploitable technology opportunities. | | | | | | | | | | | | |
| Project DY5: Production/Fielding Coordination for Capability Sets, provides for the development of a synchronized Brigade/Division level plan for the Production equipment delivery and Fielding (hand-off logistics and new equipment training) of Capability Set (CS) components (both hardware/software in A and/or B Kits) upon completion of Network Integration Evaluation (NIE), Army Interoperability Certification (AIC) and Army CS fielding decision. | | | | | | | | | | | | |
| Project DY7: Army System Engineering, Architecture & Analysis, provides the Army's leadership and materiel developers with the necessary modernization planning, System of Systems (SoS) engineering, technical analysis, architectural products, critical path analysis, and risk analysis and mitigation planning to influence the Army's materiel portfolio. This project also explicitly funds Cyber Security engineering, architecture and development tasks necessary to create effective, affordable and secure | | | | | | | | | | | | |

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| Exhibit R-2, RDT&E Budget Item Justification: PB 2019 Army | | | | Date: February 2018 | | |
| Appropriation/Budget Activity 2040: Research, Development, Test & Evaluation, Army / BA 5: System Development & Demonstration (SDD) | | R-1 Program Element (Number/Name) PE 0604798A / Brigade Analysis, Integration and Evaluation | | | | |
| network capabilities that address critical gaps, meet Mission Command Network (MCN) 2020 objectives and/or Force 2025 and Beyond (F2025B) initiatives. Integration of Army defensive/offensive cyber and Position, Navigation, and Timing (PNT) capabilities into the overall CS design, Multinational/Mission Partner Environments architecture development at both the tactical and enterprise levels, network modernization risks/gaps for Corps level units and below, and Army spectrum strategy. | | | | | | |
| Project DZ6: Army Integration Management & Coordination, provides for all "shared" functions (Human resources, Budget development and executions, Acquisition, Operations, Program Coordination, Facilities management) and headquarters functions that supports the technical aspects of the Network integration, Platform integration, Brigade Integration and the Production Integration and coordination and synchronized fielding teams. | | | | | | |
| Project FG7: Emerging Technology Initiatives, will fund prototyping and demonstration of selected technology enabled capabilities to defeat emerging threats against ground, aviation, command, control, communications & reconnaissance systems and equipment, precision weapons, and Soldier equipment. Funding facilitates maturation and demonstration of emerging technologies and systems in relevant varied environments and tactical/operational scenarios. The focus is to mature technologies with a goal of initial production, limited fielding, and transition to a Program of Record in an Army or DoD Program Management Office. | | | | | | |
| B. Program Change Summary (\$ in Millions) | | FY 2017 | FY 2018 | FY 2019 Base | FY 2019 OCO | FY 2019 Total |
| Previous President's Budget | | 146.655 | 145.360 | 128.742 | - | 128.742 |
| Current President's Budget | | 101.927 | 145.360 | 49.288 | - | 49.288 |
| Total Adjustments | | -44.728 | 0.000 | -79.454 | - | -79.454 |
| • Congressional General Reductions | | -0.035 | - | | | |
| • Congressional Directed Reductions | | - | - | | | |
| • Congressional Rescissions | | - | - | | | |
| • Congressional Adds | | - | - | | | |
| • Congressional Directed Transfers | | - | - | | | |
| • Reprogrammings | | - | - | | | |
| • SBIR/STTR Transfer | | -2.681 | - | | | |
| • Adjustments to Budget Years | | - | - | -39.463 | - | -39.463 |
| • Transfer funding from PE0604798A (FG7) to PE060505A (FI3) | | - | - | -39.991 | - | -39.991 |
| • RAA not appropriated | | -42.012 | - | - | - | - |
| Change Summary Explanation | | | | | | |
| FY 2017 funds in the amount of (-\$2.681) million were transferred to support SBIR/STTR from project DY3. | | | | | | |
| FY 2017 program changes reflect \$42.012 million not appropriated in the request for additional appropriations for FY 2017 to support the Army's Rapid Capabilities Office (RCO) efforts. | | | | | | |
| FY 2019 program change reflects the \$39.991 million of funding under project PE0604798A FG7 moving to PE0605054A project FI3. | | | | | | |

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| Appropriation/Budget Activity 2040: <i>Research, Development, Test & Evaluation, Army I BA 5: System Development & Demonstration (SDD)</i> | | R-1 Program Element (Number/Name) PE 0604798A <i>I Brigade Analysis, Integration and Evaluation</i> |
| FY 2019 program changes also reflects \$39.463 million of funding removed [\$21.924 million from DY3 for Cross Functional Teams (CFTs); \$14.558 million from DY3 for FY17 Under Execution; and \$2.981 million in Economic Adjustments (Army) from all projects (\$2.317 million from DY3; \$0.107 million from DY5; \$0.388 million from DY7; \$0.169 million from DZ6)] | | |

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| Appropriation/Budget Activity 2040 / 5 | | | | | R-1 Program Element (Number/Name) PE 0604798A / <i>Brigade Analysis, Integration and Evaluation</i> | | | | Project (Number/Name) DY3 / <i>NIE Test & Evaluation</i> | | | |
| COST (\$ in Millions) | Prior Years | FY 2017 | FY 2018 | FY 2019 Base | FY 2019 OCO | FY 2019 Total | FY 2020 | FY 2021 | FY 2022 | FY 2023 | Cost To Complete | Total Cost |
| DY3: <i>NIE Test & Evaluation</i> | - | 41.885 | 58.395 | 22.683 | - | 22.683 | 23.530 | 23.677 | 23.541 | 23.508 | 0.000 | 217.219 |
| Quantity of RDT&E Articles | - | - | - | - | - | - | - | - | - | - | | |

A. Mission Description and Budget Item Justification

Project DY3: Network Integration Evaluation (NIE) Test & Evaluation, synchronizes, integrates, and manages system and System of Systems (SoS) capability assessments in laboratory and operational environments in order to inform Army force modernization decisions that impact system improvements, interoperability compliance, operational readiness, and exploitable technology opportunities.

In FY2018 there are two planned events: a NIE and a Joint Warfighting Assessment (JWA) [formerly known as an Army Warfighting Assessment (AWA)]. The NIE will focus on testing of Programs of Record (PoR) in support of synchronized Capability Set (CS) fielding of network and mission command systems. The JWA will focus on Force 2025 concepts; interoperability & Army Warfighting Challenges (AWFCs); and emerging capabilities. Beginning in FY2019, in accordance with readiness demands and the Army's new modernization approach, the mission will shift to only support Warfighter Assessment events with focus on Joint Multination Interoperability and concept development. This change will affect associated integration and management processes by reducing the formal rigor associated with PoR testing and shifting to an experimentation model, with prototype-level designs and increased unit ownership of preparation tasks.

These funds support the following major efforts associated with an assessment:

- Planning: coordination with multiple stakeholders on the participation and resourcing of personnel, services, equipment and prototypes, and other deliverables needed for lab based risk reduction (LBRR), capability and platform integration, training, field support and logistics, event battle rhythm/schedule, and developing network data products.
- Preparation: Conduct LBRR, complete integrated vehicle designs, build prototype vehicles for safety release, conduct platform installation and checkout, validate the network, and obtain Information Assurance certifications.
- Execution: technical and logistics support during soldier-led assessments, trouble ticket management and closeout, and field support management.
- Close-out: inventorying platforms, de-installing equipment, returning platforms to their original configurations.

These funds may also be used for procuring equipment and materials (to include prototypes, when required), event infrastructure, field services, personnel (government and contractor), and travel.

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

| | FY 2017 | FY 2018 | FY 2019 |
|--|----------------|----------------|----------------|
| Title: Integrated Evaluations | 39.000 | 55.934 | 21.548 |
| Description: These funds enable assessments of capabilities in laboratory and operational environments across the Army battlespace to assess the systems, SoS, and inform system development and fielding decisions. These funds support event planning, preparation, execution, and close-out. | | | |

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| Exhibit R-2A, RDT&E Project Justification: PB 2019 Army | | Date: February 2018 | |
| Appropriation/Budget Activity 2040 / 5 | R-1 Program Element (Number/Name) PE 0604798A / <i>Brigade Analysis, Integration and Evaluation</i> | Project (Number/Name) DY3 / <i>NIE Test & Evaluation</i> | |
| B. Accomplishments/Planned Programs (\$ in Millions) | | FY 2017 | FY 2018 |
| <p>FY 2018 Plans:</p> <p>Overview:</p> <p>These funds provide for Planning, Preparation, Execution, and Close-out for two planned evaluation events (JWA 18.1 and NIE 18.2); and initial planning and procurement of long lead items for the next event (JWA 19.1). For both events, Planning, Platform Preparation, Execution and Close-out are expected to occur at the unit's home station. Required program management, engineering, and vehicle integration resources will deploy to the unit's home station to integrate network systems onto brigade platforms and validate network performance. The evaluation execution will then take place. At the conclusion of the NIE/JWA, the unit and integration team will demod platforms and return them to baseline configuration. Support listed below is common to both events unless otherwise noted and consists of the following activities.</p> <p>Planning:</p> <p>These funds provide for coordination with Training and Doctrine Command (TRADOC), Headquarters, Department of the Army G-3/5/7, and Assistant Secretary of the Army for (Acquisition, Logistics, & Technology) ASA (ALT) PEOs to align capabilities/technologies to Focused End States (FES) for each event. Support development and implementation of Horseblanket architecture and engineering analysis of design requirements and platform Size, Weight, and Power (SWaP) constraints that may impact inclusion of proposed systems in the event architecture. Conduct detailed planning sessions (?Bullpens?) to finalize system parameters and characteristics needed for platform/system engineering designs, determine and verify network accreditation status, identify supporting hardware and software requirements, finalize product delivery schedules, and synchronize the Integrated Master Schedule (IMS) with all lower tier integration schedules.</p> <p>These funds support planning for the network Validation Exercise (VALEX) to support the operational exercise. This effort includes developing a VALEX site plan, assigning unit locations within the VALEX location; identifying and resolving security issues associated with running classified and/or coalition network operations; validating all Information Assurance Accreditations for networked C4ISR systems, and developing of technical mission threads used to validate the network.</p> <p>These funds also support development of Network Architecture, Transport View, and Interconnecting Diagrams that are critical for defining the network system configurations, routing schemes, and architectures for networked systems/devices, as well as a spectrum plan to allocate and de-conflict operating frequencies.</p> <p>Event Preparation:</p> <p>These funds support efforts leading up to the execution of the Evaluation exercise to include LBRR, design refinement, Bill of Material (BOM) development, Configuration Management (CM), integration material procurement and manufacturing, Golden Vehicle (GV) build, safety release, Fleet build, VALEX, management of field support representatives (FSR) and products to be evaluated.</p> <p>The LBRR risk reduction efforts for the NIE and AWA are conducted in controlled laboratory environment to identify and resolve integration, configuration and interoperability issues prior to the operational events. LBRR efforts use PoR hardware/software,</p> | | | |

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| B. Accomplishments/Planned Programs (\$ in Millions) | | FY 2017 | FY 2018 |
| <p>validated communications threads, and the data products to ensure the network effectively represents the event networks. Test products delivered by the LBRR document the results of network functional testing, routing, and thread testing. These funds also provide LBRR SMEs on-site VALEX support to conduct analysis efforts designed to improve future Army networks and end states, and oversee blue/red teaming.</p> <p>These funds further refine the engineering design packages (drawings, diagrams, and other guides/documentation); development of Bills of Material (BOMs) needed to support integration of an estimated 3000 Command, Control, Communications, and Computer Intelligence, Surveillance, and Reconnaissance (C4ISR) systems and their A/B Kits on to approximately 250 tactical platforms; Configuration Management (CM) for the event network architecture, all platforms, systems, system of system engineering designs, A-Kits, B-Kits, and the IMS; management of the Authority to Connect (ATC) process; risk analysis for the Operational Test Network (OTN); Procurement of approximately 20,000 items (e.g., fasteners, cables, components, Prototypes (as required), and other items) needed to support NIE/AWA; and fabrication of approximately 1,000 specialized cables, metal plates, racks, and brackets to enable platform installation/integration.</p> <p>These funds also enable design, integration, and safety release testing of Prototype or Golden Vehicles (GV) [NIEs average 50 GVs and AWAs require approximately 25 GVs] and Fleet build of approximately 250 tactical platforms. For each event, the scope of the integration effort includes management of approximately 500 Field Service Representatives (FSRs) that support all installation teams, coordination and movement of the Fleet vehicles, inventory management of systems, instrumentation, and integration material.</p> <p>Following completion of platform integration efforts, these funds support a structured network VALEX consisting of four subordinate efforts: Load Exercise (LOADEX), ESTABLISH, INTEGRATE, and VALIDATE.</p> <p>? LOADEX; Installation of network system hard drives, operating system software, software applications, and firmware on up to 3000 systems. Set Internet Protocol (IP) addresses and configure all network systems; load and initialize radio mission plans, system configuration files and system parameters on up to 400 platforms; and perform test/fix/test processes at the system and component levels.</p> <p>? ESTABLISH; Verification of networked hardware and software performance at the platform level. Troubleshoot issues associated with network system configurations and verify that each integrated platform can perform its mission while operating on the network.</p> <p>? INTEGRATE; Verification of networked hardware/software performance and networked communications at each echelon. Troubleshoot any issues found and ensure tactical unit information exchange will enable units to support their intended missions. Ensure instrumentation is operational, collecting data, and storing the data as required. Provide over-the-shoulder training for Soldiers.</p> <p>? VALIDATE; Execution of up to 40 mission threads to verify the correct routing of messages and information transfer among critical nodes in the network. For Systems Under Test, ensure instrumentation is properly configured for capturing and logging data, enabling Army Test and Evaluation Command (ATEC) and Training and Doctrine Command (TRADOC) assessments and evaluations.</p> | | | |

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| B. Accomplishments/Planned Programs (\$ in Millions) | | FY 2017 | FY 2018 |
| <p>Coordination with System Owners, vendors, and Joint Modernization Command (JMC) for New Equipment Training (NET) training package development/delivery and manage training for approximately 1,000 soldiers.</p> <p>Platform integration and VALEX efforts may encompass coordination with CS design teams. Funding will ensure equipment and network interface designs support the CS architecture; verify CS training support requirements; establish methods for informing CS design teams on issues and/or trends; address Integrated Logistics System (ILS) requirements; and capture lessons learned from After Action Reviews (AARs), Technical Reports, and Feedback on CS issues.</p> <p>Evaluation Event Execution:</p> <p>Funding supports all field operations of approximately 500 FSRs and 50 CPD personnel that provide support to the unit during the events and coordination with ATEC and TRADOC. It also includes monitoring of network operations in the field, trouble ticket management, continued LBRR support to troubleshoot technical issues, data capture and analysis, red/blue team cyber support, deployment of mobile facilities, and replacement parts/components required to effectively complete detailed evaluations.</p> <p>Closeout:</p> <p>These funds support all activities associated with the de-installation and recovery of network systems, components, A-kits, cabling installed on platforms, and restoration of platforms to baseline configurations. Removal, inspection, repair/replacement, shipping, and storing of all materiel and infrastructure used to enable the unit to execute the event. Analyze data and publish reports on how well systems performed and recommendations for future fielding. Conduct AARs for process improvements.</p> <p>Future Planning:</p> <p>These funds support efforts to provide technical input on candidate systems at the Technical Interchange Meetings, Concepts and Capabilities Review Board, and Strategic Planning Reviews for future events. Funding also supports Network SoS performance analyses of future CS reference architectures, performance validation, predictive analysis (to include operational impact assessment of the proposed architectural COAs), sustainment improvement analysis; and assessments of Position, Navigation and Timing (PNT), Cyber, Electronic Warfare solutions performance.</p> <p>FY 2019 Plans:</p> <p>Overview:</p> <p>These funds provide for Close out of NIE 18.2; Planning, Preparation, Execution, and Close-out for JWA 19; and initial planning for JWA 20. Planning and Preparation are expected to occur at Ft Bliss, TX, while, Execution and Close-out are expected to occur at various locations such as the unit's home station or a Combined Arms Training Center.</p> <p>Planning:</p> <p>These funds support the development and implementation of horse blanket architecture, conducting design activities for integration of capability onto unit vehicles, exercise planning and coordination, to include:</p> <p>Developing a Validation Exercise (VALEX) plan that configures and checks out the system of systems prior to the exercise; assigning unit locations within the VALEX location; identifying and resolving security issues associated with running classified and/</p> | | | |

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| B. Accomplishments/Planned Programs (\$ in Millions) | | FY 2017 | FY 2018 |
| <p>or coalition network operations; validating all Information Assurance Accreditations for networked C4ISR systems, and developing of technical mission threads used to validate the capabilities.</p> <p>These funds also support defining the network system configurations and routing schemes for each event.</p> <p>Preparation:</p> <p>These funds support efforts leading up to the execution of the assessment exercise, to include LBRR, vehicle integration design and build, safety release, and conducting of VALEX.</p> <p>The LBRR risk reduction efforts are conducted in controlled laboratory environments to identify and resolve integration, configuration and interoperability issues prior to assessments. Reports delivered by the LBRR document the results of network functional testing, routing, and thread testing.</p> <p>These funds provide for integration efforts such as design of installation kits on tactical platforms; fabrication of specialized cables, metal plates, racks, and brackets to enable platform installation/integration; and safety release testing. The scope of the integration effort also includes planning for Field Service Representatives (FSRs) and other technical support personnel, coordination and movement of the Fleet vehicles, and inventory management of systems.</p> <p>Following completion of platform integration efforts, these funds support a structured network VALEX consisting of four subordinate efforts: Load Exercise (LOADEX), ESTABLISH, INTEGRATE, and VALIDATE.</p> <p>-LOADEX; Support unit installation of new network capabilities into existing network, to include setting Internet Protocol (IP) addresses and configure network systems changes; modify radio mission plans, system configuration files and system parameters; and perform test/fix/test processes at the system and component levels.</p> <p>-ESTABLISH; Verification of new hardware and software performance at the platform level. Troubleshoot issues associated with network system configurations and verify that each integrated platform can perform its mission while operating on the network.</p> <p>-INTEGRATE; Verification of networked related hardware/software performance and networked communications at each echelon. Troubleshoot issues found with new capabilities and ensure tactical unit information exchange will enable units to support their intended missions.</p> <p>-VALIDATE; Support unit conduct of mission threads to verify the correct routing of messages and information transfer among critical nodes in the network.</p> <p>Execution:</p> <p>Funding supports all management and synchronization of field operations and support personnel during the events, and coordination with the supported command. It also includes monitoring of network operations in the field, trouble ticket management, continued LBRR support to troubleshoot technical issues, deployment of mobile facilities, and replacement parts/ components required to effectively support concepts and capabilities under assessment.</p> <p>Closeout:</p> | | | |

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| B. Accomplishments/Planned Programs (\$ in Millions) | | FY 2017 | FY 2018 | FY 2019 |
| <p>These funds support all activities associated with the de-installation and recovery of systems, components, A-kits, cabling installed on platforms, and restoration of platforms to baseline configurations. Removal, inspection, repair/replacement, shipping, and storing of all materiel and infrastructure used to enable the unit to execute the event. Conduct AARs for process improvements.</p> <p>Future Planning: These funds support efforts to provide technical input on candidate systems at the Concepts and Capabilities Review Board and Strategic Planning Reviews for future events.</p> <p>FY 2018 to FY 2019 Increase/Decrease Statement: Based upon elimination of NIEs, in accordance with readiness demands and the Army's new modernization approach, the mission will shift to only support Warfighter Assessment events.</p> | | | | |
| <p>Title: Infrastructure and other support</p> <p>Description: Provides for setup, utilities, furniture, equipment and maintenance (of all equipment and facilities) used by SoSE&I (CPD) in support of Network Integration Evaluations (NIE) and Joint Warfighting Assessments (JWA).</p> <p>FY 2018 Plans: Provides for setup, utilities, furniture, equipment and maintenance (of all equipment and facilities) used by SoSE&I (CPD) in support of Network Integration Evaluations (NIE) and Joint Warfighting Assessments (JWA). It includes lease and support maintenance contracts for Government Service Administration (GSA) vehicles, IT equipment/support and facilities to support NIEs and JWAs.</p> <p>FY 2019 Plans: Provides for setup, utilities, furniture, equipment and maintenance (of all equipment and facilities) used by SoSE&I Capability Package Directorate (CPD) in support of assessments. It includes lease and support maintenance contracts for IT equipment/support and facilities.</p> <p>FY 2018 to FY 2019 Increase/Decrease Statement: Based upon infrastructure needs and varying locations.</p> | | 2.885 | 2.461 | 1.135 |
| Accomplishments/Planned Programs Subtotals | | 41.885 | 58.395 | 22.683 |
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| C. Other Program Funding Summary (\$ in Millions) | | | | | | | | | | | |
| | | | FY 2019 | FY 2019 | FY 2019 | | | | | Cost To | |
| Line Item | FY 2017 | FY 2018 | Base | OCO | Total | FY 2020 | FY 2021 | FY 2022 | FY 2023 | Complete | Total Cost |
| • DY5: <i>Production/Fielding Coordination for Capability Sets</i> | 4.660 | 4.261 | 4.242 | - | 4.242 | 4.301 | 4.391 | 4.369 | 4.462 | Continuing | Continuing |
| • DY7: <i>Army Systems Engineering, Architecture and Analysis</i> | 18.802 | 15.508 | 15.610 | - | 15.610 | 24.377 | 24.760 | 25.449 | 25.939 | Continuing | Continuing |
| • DZ6: <i>Army Integration & Coordination Management</i> | 8.915 | 6.775 | 6.753 | - | 6.753 | 6.889 | 6.987 | 7.132 | 7.550 | Continuing | Continuing |
| • FG7: <i>Emerging Technology Initiatives</i> | 27.665 | 60.421 | 0.000 | - | 0.000 | - | - | - | - | Continuing | Continuing |
| Remarks | | | | | | | | | | | |
| D. Acquisition Strategy | | | | | | | | | | | |
| This project includes competitive contracts for test support services. Additional competitive contracts are awarded by Defense Information Systems Agency (DISA) for satellite support. | | | | | | | | | | | |
| E. Performance Metrics | | | | | | | | | | | |
| N/A | | | | | | | | | | | |

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| Exhibit R-3, RDT&E Project Cost Analysis: PB 2019 Army | | | | | | | | | | | | Date: February 2018 | | | |
| Appropriation/Budget Activity 2040 / 5 | | | | | | R-1 Program Element (Number/Name) PE 0604798A / Brigade Analysis, Integration and Evaluation | | | | Project (Number/Name) DY3 / NIE Test & Evaluation | | | | | |
| Management Services (\$ in Millions) | | | | FY 2017 | | FY 2018 | | FY 2019 Base | | FY 2019 OCO | | FY 2019 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 |
| Core Government Labor | Allot | SoSE&I : Various | - | - | | 4.056 | Nov 2017 | 4.278 | Nov 2018 | - | | 4.278 | Continuing | Continuing | - |
| Matrix Government Labor | MIPR | SoSE&I : Various | - | - | | 3.331 | Nov 2017 | 1.665 | Nov 2018 | - | | 1.665 | Continuing | Continuing | - |
| MITRE Labor | FFRDC | MITRE : Various | - | - | | 1.820 | Nov 2017 | 0.910 | Nov 2018 | - | | 0.910 | Continuing | Continuing | - |
| Contractor SETA Labor | C/CPFF | TBD : Various | - | - | | 5.620 | Nov 2017 | 2.967 | Nov 2018 | - | | 2.967 | Continuing | Continuing | - |
| Temporary Duty (TDY) | Allot | SoSE&I : Various | - | - | | 1.000 | Nov 2017 | 0.853 | Nov 2018 | - | | 0.853 | Continuing | Continuing | - |
| Subtotal | | | - | - | | 15.827 | | 10.673 | | - | | 10.673 | Continuing | Continuing | N/A |
| Remarks | | | | | | | | | | | | | | | |
| - Program Activities performed at Aberdeen Proving Grounds (MD), FT Bliss (TX), White Sands Missile Range (NM) and the selected NIE/JWA unit's home station. | | | | | | | | | | | | | | | |
| - Other NIE/JWA subject matter expertise support provided using existing Army contracts managed by PEO C3T, ATEC, and CERDEC. | | | | | | | | | | | | | | | |
| Product Development (\$ in Millions) | | | | FY 2017 | | FY 2018 | | FY 2019 Base | | FY 2019 OCO | | FY 2019 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 |
| Integrated Evaluations | Various | Various : TBD | - | 39.000 | Nov 2016 | - | | - | | - | | - | 0.000 | 39.000 | - |
| Subtotal | | | - | 39.000 | | - | | - | | - | | - | 0.000 | 39.000 | N/A |
| Remarks | | | | | | | | | | | | | | | |
| - Program Activities performed, Aberdeen Proving Grounds (MD), FT Bliss (TX), White Sands Missile Range (NM) and the selected NIE/JWA unit's home station. | | | | | | | | | | | | | | | |
| - Vehicle Integration performed under contract W56HZV-15-D-ER03 by BRTRC and other NIE/JWA support provided using existing Army contracts managed by PEO C3T, ATEC, and CERDEC. | | | | | | | | | | | | | | | |
| - Includes support services from DISA (for satellite time) and other governments agencies | | | | | | | | | | | | | | | |
| Support (\$ in Millions) | | | | FY 2017 | | FY 2018 | | FY 2019 Base | | FY 2019 OCO | | FY 2019 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 |
| Vehicle Integration | C/CPFF | BRTRC : Various | - | - | | 12.000 | Nov 2017 | 5.000 | Mar 2019 | - | | 5.000 | Continuing | Continuing | Continuing |
| Network Integration and Baseline Systems | MIPR | PEO C3T : Various | - | - | | 10.000 | Nov 2017 | 3.400 | Mar 2019 | - | | 3.400 | Continuing | Continuing | Continuing |

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| Exhibit R-3, RDT&E Project Cost Analysis: PB 2019 Army | | | | | | | | | | | | Date: February 2018 | | | |
| Appropriation/Budget Activity 2040 / 5 | | | | | | R-1 Program Element (Number/Name) PE 0604798A / <i>Brigade Analysis, Integration and Evaluation</i> | | | | | | Project (Number/Name) DY3 / <i>NIE Test & Evaluation</i> | | | |
| Support (\$ in Millions) | | | | FY 2017 | | FY 2018 | | FY 2019 Base | | FY 2019 OCO | | FY 2019 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 |
| Infrastructure and other support | TBD | TBD : Various | - | 2.885 | Nov 2016 | 5.000 | Nov 2017 | 1.135 | Mar 2019 | - | | 1.135 | Continuing | Continuing | Continuing |
| Subtotal | | | - | 2.885 | | 27.000 | | 9.535 | | - | | 9.535 | Continuing | Continuing | N/A |
| Remarks | | | | | | | | | | | | | | | |
| - Program Activities performed at Aberdeen Proving Grounds (MD), FT Bliss (TX), White Sands Missile Range (NM) and the selected NIE/JWA unit's home station. - Vehicle Integration performed under contract W56HZV-15-D-ER03 by BRTRC. - Network Integration and Baseline Systems subject matter expertise support provided using existing Army contracts managed by PEO C3T and its subordinate Program Managers (PMs). | | | | | | | | | | | | | | | |
| Test and Evaluation (\$ in Millions) | | | | FY 2017 | | FY 2018 | | FY 2019 Base | | FY 2019 OCO | | FY 2019 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 |
| ATEC Test and Evaluation Support | MIPR | ATEC : Various | 18.117 | - | | 3.500 | Nov 2017 | 0.700 | Mar 2019 | - | | 0.700 | Continuing | Continuing | Continuing |
| Lab Based Risk Reduction (LBRR) | MIPR | CERDEC : APG, MD | - | - | | 5.300 | Nov 2017 | 1.500 | Mar 2019 | - | | 1.500 | Continuing | Continuing | Continuing |
| Satellite Region Hub Node (RHN) Technical Support | MIPR | Cyber Battle Lab : Ft. Gordon, GA | - | - | | 2.339 | Nov 2017 | - | | - | | - | Continuing | Continuing | Continuing |
| Satellite Transponder Bandwidth | MIPR | DISA : Various | - | - | | 2.500 | Nov 2017 | - | | - | | - | Continuing | Continuing | Continuing |
| Cyber Vulnerability/Risk Assessments | MIPR | Army Research Laboratory : Various | - | - | | 0.700 | Nov 2017 | 0.275 | Mar 2019 | - | | 0.275 | Continuing | Continuing | Continuing |
| Systems Under Evaluation (SUEs) | C/Various | TBD : Various | - | - | | 1.229 | Nov 2017 | - | | - | | - | Continuing | Continuing | Continuing |
| Subtotal | | | 18.117 | - | | 15.568 | | 2.475 | | - | | 2.475 | Continuing | Continuing | N/A |
| Remarks | | | | | | | | | | | | | | | |
| - Program Test support through ATEC, Lab Based Risk Reduction through CERDEC, and Cyber Vulnerability/Risk Assessments through Army Research Laboratory (ARL). - Satellite RHN Technical Support provided by the Cyber Battle Lab at Fort Gordon, GA and Satellite Transponder Bandwidth contracted through DISA. - Program Activities performed at Aberdeen Proving Grounds (MD), FT Bliss (TX), White Sands Missile Range (NM) and the selected NIE/JWA unit's home station. | | | | | | | | | | | | | | | |

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| Exhibit R-3, RDT&E Project Cost Analysis: PB 2019 Army | | | | | | | | | | | Date: February 2018 | | | |
| Appropriation/Budget Activity 2040 / 5 | | | | | R-1 Program Element (Number/Name) PE 0604798A / Brigade Analysis, Integration and Evaluation | | | | | Project (Number/Name) DY3 / NIE Test & Evaluation | | | | |
| | | Prior Years | FY 2017 | | FY 2018 | | FY 2019 Base | | FY 2019 OCO | | FY 2019 Total | Cost To Complete | Total Cost | Target Value of Contract |
| Project Cost Totals | | 18.117 | 41.885 | | 58.395 | | 22.683 | | - | | 22.683 | Continuing | Continuing | N/A |

Remarks

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| Exhibit R-4, RDT&E Schedule Profile: PB 2019 Army | | | Date: February 2018 | | |
| Appropriation/Budget Activity 2040 / 5 | | R-1 Program Element (Number/Name) PE 0604798A / <i>Brigade Analysis, Integration and Evaluation</i> | | Project (Number/Name) DY3 / <i>NIE Test & Evaluation</i> | |

| Event Name | FY 2017 | | | | FY 2018 | | | | FY 2019 | | | | FY 2020 | | | | FY 2021 | | | | FY 2022 | | | | FY 2023 | | | |
|---|---------|---|---|---|---------|---|---|---|---------|---|---|---|---------|---|---|---|---------|---|---|---|---------|---|---|---|---------|---|---|---|
| | 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 |
| AWA 17.1 Planning - Execution | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| AWA 17.1 Lab Integration/Testing | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| AWA 17.1 Garrison CommEx | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| AWA 17.1 Field CommEx | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| AWA 17.1 Event | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| AWA 17.1 Event Analysis & Summary | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| NIE 17.2 Planning - Execution | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| NIE 17.2 DP 2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| NIE 17.2 Lab Integration/Testing | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| NIE 17.2 Candidate Solution Integration | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| NIE 17.2 ValEx | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| NIE 17.2 Garrison CommEx | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| NIE 17.2 Pilot | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

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| Exhibit R-4, RDT&E Schedule Profile: PB 2019 Army | | | Date: February 2018 | | |
| Appropriation/Budget Activity 2040 / 5 | | R-1 Program Element (Number/Name) PE 0604798A / <i>Brigade Analysis, Integration and Evaluation</i> | | Project (Number/Name) DY3 / <i>NIE Test & Evaluation</i> | |

| Event Name | FY 2017 | | | | FY 2018 | | | | FY 2019 | | | | FY 2020 | | | | FY 2021 | | | | FY 2022 | | | | FY 2023 | | | |
|---|---------|---|---|---|---------|---|---|---|---------|---|---|---|---------|---|---|---|---------|---|---|---|---------|---|---|---|---------|---|---|---|
| | 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 |
| NIE 17.2 Event | | | | ■ | | | | | | | | | | | | | | | | | | | | | | | | |
| NIE 17.2 Event Analysis & Summary | | | | ■ | | | | | | | | | | | | | | | | | | | | | | | | |
| JWA 18.1 Planning - Execution | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| JWA 18.1 DP 2B | | ▲ | | | | | | | | | | | | | | | | | | | | | | | | | | |
| JWA 18.1 Candidate Solution Integration | | | | | | | ■ | | | | | | | | | | | | | | | | | | | | | |
| JWA 18.1 ValEx | | | | | | | ■ | | | | | | | | | | | | | | | | | | | | | |
| JWA 18.1 Garrison CommEx | | | | | | | ■ | | | | | | | | | | | | | | | | | | | | | |
| JWA 18.1 Field CommEx | | | | | | | ■ | | | | | | | | | | | | | | | | | | | | | |
| JWA 18.1 Event | | | | | | | ■ | | | | | | | | | | | | | | | | | | | | | |
| JWA 18.1 Event Analysis & Summary | | | | | | | ■ | | | | | | | | | | | | | | | | | | | | | |
| NIE 18.2 Planning - Execution | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| NIE 18.2 DP 2 | | ▲ | | | | | | | | | | | | | | | | | | | | | | | | | | |
| NIE 18.2 Lab Integration/Testing | | | | | | | | ■ | | | | | | | | | | | | | | | | | | | | |

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| Exhibit R-4, RDT&E Schedule Profile: PB 2019 Army | | | | | | | | | | | | | | | | Date: February 2018 | | | | | | | | | | | | |
| Appropriation/Budget Activity 2040 / 5 | | | | | | | | | | R-1 Program Element (Number/Name) PE 0604798A / Brigade Analysis, Integration and Evaluation | | | | | | | | Project (Number/Name) DY3 / NIE Test & Evaluation | | | | | | | | | | |
| Event Name | FY 2017 | | | | FY 2018 | | | | FY 2019 | | | | FY 2020 | | | | FY 2021 | | | | FY 2022 | | | | FY 2023 | | | |
| | 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 |
| NIE 18.2 Candidate Solution Integration | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| NIE 18.2 ValEx | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| NIE 18.2 Garrison CommEx | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| NIE 18.2 Pilot | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| NIE 18.2 Event | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| NIE 18.2 Event Analysis & Summary | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| JWA 19.1 Planning - Execution | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| JWA 19.1 DP 2A | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| JWA 19.1 DP 2B | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| JWA 19.1 Lab Integration/Testing | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| JWA 19.1 Candidate Solution Integration | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| JWA 19.1 ValEx | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| JWA 19.1 Garrison CommEx | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

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| Exhibit R-4, RDT&E Schedule Profile: PB 2019 Army | Date: February 2018 |
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| Appropriation/Budget Activity 2040 / 5 | R-1 Program Element (Number/Name) PE 0604798A / <i>Brigade Analysis, Integration and Evaluation</i> | Project (Number/Name) DY3 / <i>NIE Test & Evaluation</i> |
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| Event Name | FY 2017 | | | | FY 2018 | | | | FY 2019 | | | | FY 2020 | | | | FY 2021 | | | | FY 2022 | | | | FY 2023 | | | |
|---|---------|---|---|---|---------|---|---|---|---------|---|---|---|---------|---|---|---|---------|---|---|---|---------|---|---|---|---------|---|---|---|
| | 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 |
| JWA 19.1 Field CommEx | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| JWA 19.1 Event | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| JWA 19.1 Event Analysis & Summary | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| JWA 20.1 Planning - Execution | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| JWA 20.1 DP 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| JWA 20.1 DP 2a | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| JWA 20.1 DP 2b | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| JWA 20.1 Lab Integration/Testing | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| JWA 20.1 Candidate Solution Integration | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| JWA 20.1 ValEx | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| JWA 20.1 Garrison CommEx | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| JWA 20.1 Field CommEx | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| JWA 20.1 Event | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

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| Exhibit R-4, RDT&E Schedule Profile: PB 2019 Army | | | | | | | | | | | | | | Date: February 2018 | | | | | | | | | | | | | | |
| Appropriation/Budget Activity 2040 / 5 | | | | | | | | R-1 Program Element (Number/Name) PE 0604798A / <i>Brigade Analysis, Integration and Evaluation</i> | | | | | | | | Project (Number/Name) DY3 / <i>NIE Test & Evaluation</i> | | | | | | | | | | | | |
| Event Name | FY 2017 | | | | FY 2018 | | | | FY 2019 | | | | FY 2020 | | | | FY 2021 | | | | FY 2022 | | | | FY 2023 | | | |
| | 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 |
| JWA 20.1 Event Analysis & Summary | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| JWA 21.1 Planning - Execution | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| JWA 21.1 DP 1 | | | | | | | | | | | | | 8 | | | | | | | | | | | | | | | |
| JWA 21.1 DP 2a | | | | | | | | | | | | | | | | | 10 | | | | | | | | | | | |
| JWA 21.1 DP 2b | | | | | | | | | | | | | | | | | | | | | 11 | | | | | | | |
| JWA 22.1 Planning - Execution | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| JWA 23.1 Planning - Execution | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

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| Exhibit R-4A, RDT&E Schedule Details: PB 2019 Army | | | Date: February 2018 |
| Appropriation/Budget Activity 2040 / 5 | R-1 Program Element (Number/Name) PE 0604798A / <i>Brigade Analysis, Integration and Evaluation</i> | Project (Number/Name) DY3 / <i>NIE Test & Evaluation</i> | |

Schedule Details

| Events | Start | | End | |
|---|----------------|-------------|----------------|-------------|
| | Quarter | Year | Quarter | Year |
| AWA 17.1 Planning - Execution | 3 | 2015 | 2 | 2017 |
| AWA 17.1 Lab Integration/Testing | 3 | 2016 | 1 | 2017 |
| AWA 17.1 Candidate Solution Integration | 4 | 2016 | 4 | 2016 |
| AWA 17.1 ValEx | 4 | 2016 | 4 | 2016 |
| AWA 17.1 Garrison CommEx | 4 | 2016 | 1 | 2017 |
| AWA 17.1 Field CommEx | 1 | 2017 | 1 | 2017 |
| AWA 17.1 Event | 1 | 2017 | 1 | 2017 |
| AWA 17.1 Event Analysis & Summary | 1 | 2017 | 2 | 2017 |
| NIE 17.2 Planning - Execution | 3 | 2016 | 1 | 2018 |
| NIE 17.2 DP 2 | 2 | 2017 | 2 | 2017 |
| NIE 17.2 Lab Integration/Testing | 2 | 2017 | 4 | 2017 |
| NIE 17.2 Candidate Solution Integration | 2 | 2017 | 3 | 2017 |
| NIE 17.2 ValEx | 3 | 2017 | 3 | 2017 |
| NIE 17.2 Garrison CommEx | 3 | 2017 | 3 | 2017 |
| NIE 17.2 Pilot | 4 | 2017 | 4 | 2017 |
| NIE 17.2 Event | 4 | 2017 | 4 | 2017 |
| NIE 17.2 Event Analysis & Summary | 4 | 2017 | 1 | 2018 |
| JWA 18.1 Planning - Execution | 3 | 2016 | 3 | 2018 |
| JWA 18.1 DP 2B | 2 | 2017 | 2 | 2017 |
| JWA 18.1 Candidate Solution Integration | 2 | 2018 | 2 | 2018 |
| JWA 18.1 ValEx | 2 | 2018 | 3 | 2018 |
| JWA 18.1 Garrison CommEx | 3 | 2018 | 3 | 2018 |

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| Exhibit R-4A, RDT&E Schedule Details: PB 2019 Army | | | Date: February 2018 | |
| Appropriation/Budget Activity 2040 / 5 | R-1 Program Element (Number/Name) PE 0604798A / Brigade Analysis, Integration and Evaluation | | Project (Number/Name) DY3 / NIE Test & Evaluation | |
| | Start | | End | |
| Events | Quarter | Year | Quarter | Year |
| JWA 18.1 Field CommEx | 3 | 2018 | 3 | 2018 |
| JWA 18.1 Event | 3 | 2018 | 3 | 2018 |
| JWA 18.1 Event Analysis & Summary | 3 | 2018 | 3 | 2018 |
| NIE 18.2 Planning - Execution | 2 | 2017 | 2 | 2019 |
| NIE 18.2 DP 2 | 2 | 2017 | 2 | 2017 |
| NIE 18.2 Lab Integration/Testing | 3 | 2018 | 1 | 2019 |
| NIE 18.2 Candidate Solution Integration | 4 | 2018 | 4 | 2018 |
| NIE 18.2 ValEx | 4 | 2018 | 4 | 2018 |
| NIE 18.2 Garrison CommEx | 4 | 2018 | 4 | 2018 |
| NIE 18.2 Pilot | 1 | 2019 | 1 | 2019 |
| NIE 18.2 Event | 1 | 2019 | 1 | 2019 |
| NIE 18.2 Event Analysis & Summary | 1 | 2019 | 2 | 2019 |
| JWA 19.1 Planning - Execution | 3 | 2016 | 4 | 2019 |
| JWA 19.1 DP 2A | 1 | 2017 | 1 | 2017 |
| JWA 19.1 DP 2B | 2 | 2018 | 2 | 2018 |
| JWA 19.1 Lab Integration/Testing | 1 | 2019 | 3 | 2019 |
| JWA 19.1 Candidate Solution Integration | 2 | 2019 | 2 | 2019 |
| JWA 19.1 ValEx | 2 | 2019 | 3 | 2019 |
| JWA 19.1 Garrison CommEx | 3 | 2019 | 3 | 2019 |
| JWA 19.1 Field CommEx | 3 | 2019 | 3 | 2019 |
| JWA 19.1 Event | 3 | 2019 | 3 | 2019 |
| JWA 19.1 Event Analysis & Summary | 3 | 2019 | 4 | 2019 |
| JWA 20.1 Planning - Execution | 1 | 2018 | 4 | 2020 |
| JWA 20.1 DP 1 | 1 | 2018 | 1 | 2018 |
| JWA 20.1 DP 2a | 2 | 2018 | 2 | 2018 |

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Exhibit R-4A, RDT&E Schedule Details: PB 2019 Army **Date:** February 2018

| | | |
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| Appropriation/Budget Activity 2040 / 5 | R-1 Program Element (Number/Name) PE 0604798A / <i>Brigade Analysis, Integration and Evaluation</i> | Project (Number/Name) DY3 / <i>NIE Test & Evaluation</i> |
|--|---|--|

| Events | Start | | End | |
|---|---------|------|---------|------|
| | Quarter | Year | Quarter | Year |
| JWA 20.1 DP 2b | 2 | 2019 | 2 | 2019 |
| JWA 20.1 Lab Integration/Testing | 1 | 2020 | 3 | 2020 |
| JWA 20.1 Candidate Solution Integration | 2 | 2020 | 2 | 2020 |
| JWA 20.1 ValEx | 2 | 2020 | 3 | 2020 |
| JWA 20.1 Garrison CommEx | 3 | 2020 | 3 | 2020 |
| JWA 20.1 Field CommEx | 3 | 2020 | 3 | 2020 |
| JWA 20.1 Event | 3 | 2020 | 3 | 2020 |
| JWA 20.1 Event Analysis & Summary | 3 | 2020 | 4 | 2020 |
| JWA 21.1 Planning - Execution | 1 | 2019 | 4 | 2021 |
| JWA 21.1 DP 1 | 1 | 2019 | 1 | 2019 |
| JWA 21.1 DP 2a | 2 | 2019 | 2 | 2019 |
| JWA 21.1 DP 2b | 2 | 2020 | 2 | 2020 |
| JWA 22.1 Planning - Execution | 1 | 2020 | 4 | 2022 |
| JWA 23.1 Planning - Execution | 1 | 2021 | 4 | 2023 |

Note

-With the loss of a dedicated unit (2/1 Armored Division) after AWA 17.1, NIE/JWA event planning and a unit requirements determination has to be made earlier than in previous FYs to allow Forces Command (FORSCOM) time to select the unit participating in the test events.

-NIEs eliminated after NIE 18.2

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| Exhibit R-2A, RDT&E Project Justification: PB 2019 Army | | | | | | | | | | Date: February 2018 | | |
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| Appropriation/Budget Activity 2040 / 5 | | | | | R-1 Program Element (Number/Name) PE 0604798A / Brigade Analysis, Integration and Evaluation | | | | Project (Number/Name) DY5 / Production/Field Coordination for Capability Sets | | | |
| COST (\$ in Millions) | Prior Years | FY 2017 | FY 2018 | FY 2019 Base | FY 2019 OCO | FY 2019 Total | FY 2020 | FY 2021 | FY 2022 | FY 2023 | Cost To Complete | Total Cost |
| DY5: Production/Field Coordination for Capability Sets | - | 4.660 | 4.261 | 4.242 | - | 4.242 | 4.301 | 4.391 | 4.369 | 4.462 | 0.000 | 30.686 |
| Quantity of RDT&E Articles | - | - | - | - | - | - | - | - | - | - | | |

A. Mission Description and Budget Item Justification

This project provides for the development of a synchronized Brigade/Division level plan for the Production equipment delivery and Fielding (hand-off logistics and new equipment training) of Capability Set (CS) components (both hardware/software in A and/or B Kits) upon completion of Network Integration Evaluation (NIE), Army Interoperability Certification (AIC) and Army CS fielding decision.

This project includes the following efforts: Oversight and direct coordination between participating Program Executive Offices (PEOs), Program Managers (PMs), Research, Development and Engineering Commands (RDECOMs) and the Army's Brigade Combat Teams (BCT) throughout the CS Vehicle Integration and Synchronized Fielding process to ensure that a CS package is received, integrated, trained, and handed-off to the unit in a synchronized and efficient manner. Identification and assessment of available capabilities for inclusion into a CS. Alignment of the CS requirements with the appropriate Programs of Record (PoR) and the recipient unit to define the unit's Network Basis of Issue (NBOI)/ Architecture by type of BCT. Coordination with PEOs, PMs, Army G-staff to ensure CS products are Materiel Released/Type Classified, fully resourced and synchronized by a single Integrated Master Schedule for design integration, testing, production, kitting, platform integration, training and fielding. Direct support during each of the unit's "New Equipment Training" and "New Equipment Fielding", along with the preparation for the BCT's rotation through one of the Army's Combat Training Centers, (Joint Readiness Training Center (JRTC) or National Training Center (NTC)). Ensuring that all training assets are reset and moved to the follow-on BCT. Manage all After Action activities.

This project does not fund the actual production, integration, nor fielding costs associated with the CS.

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

| | FY 2017 | FY 2018 | FY 2019 |
|--|----------------|----------------|----------------|
| Title: Production/Fielding Coordination for Capability Sets (CS) | 4.660 | 4.261 | 4.242 |
| Description: This project provides for the development of a synchronized Brigade/Division level plan for the Production equipment delivery and Fielding (hand-off logistics and new equipment training) of Capability Set (CS) components (both hardware/software in A and/or B Kits) upon completion of Network Integration Evaluation (NIE), Army Interoperability Certification (AIC) and Army CS fielding decision. This project includes the following efforts: Oversight and direct coordination between participating Program Executive Offices (PEOs), Program Managers (PMs), Research, Development and Engineering Commands (RDECOMs) and the Army's Brigade Combat Teams (BCT) throughout the CS Vehicle Integration and Synchronized Fielding process to ensure that a CS package is received, integrated, trained, and handed-off to the unit in a synchronized and efficient manner. Identification and assessment of available capabilities for inclusion into a CS. Alignment of the CS requirements with the appropriate Programs of Record (PoR) and the recipient unit to define the unit's Network Basis of Issue (NBOI)/ Architecture by type of BCT. Coordination with PEOs, | | | |

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| Exhibit R-2A, RDT&E Project Justification: PB 2019 Army | | Date: February 2018 | |
| Appropriation/Budget Activity 2040 / 5 | R-1 Program Element (Number/Name) PE 0604798A / <i>Brigade Analysis, Integration and Evaluation</i> | Project (Number/Name) DY5 / <i>Production/Field Coordination for Capability Sets</i> | |
| B. Accomplishments/Planned Programs (\$ in Millions) | | FY 2017 | FY 2018 |
| <p>PMs, Army G-staff to ensure CS products are Materiel Released/Type Classified, fully resourced and synchronized by a single Integrated Master Schedule for design integration, testing, production, kitting, platform integration, training and fielding. Direct support during each of the unit's "New Equipment Training" and "New Equipment Fielding", along with the preparation for the BCT's rotation through one of the Army's Combat Training Centers, (Joint Readiness Training Center (JRTC) or National Training Center (NTC)). Ensuring that all training assets are reset and moved to the follow-on BCT. Manage all After Action activities.</p> <p>This project does not fund the actual production, integration, nor fielding costs associated with the CS.</p> <p>FY 2018 Plans: These funds provide for the following: - Production/Fielding Coordination for CS: Development, coordination, and execution management of the CS Fielding plan needed to produce, integrate, and field NIE tested Brigade improvements to the BCTs. Synchronize the integration and coordinate CS Fielding including CS17 closeout, CS18 execution, and detail plan for CS19 along with high level planning for CS20/21. This effort funds government and contractor personnel and travel to unit location and fielding sites for planning and coordination of resources, integrated schedule, training and fielding across CS Programs of Record (PoR). It does not fund the production, physical integration, or fielding of the CS.</p> <p>- Production/Fielding Coordination for CS17 Products and Services: Complete training and fielding of CS 17 units which begins in the 4th Quarter of FY17. This includes to IBCTs (one Active and one USARNG) and one Division HQ. Final close out of Materiel Fielding documentation and After Action Reports (AARs) for one Total Army Analysis (TAA) Infantry Brigade Combat Team (IBCT) with Lower Tactical Internet (LTI), three (3) TAA IBCTs and one (1) Division (DIV) Headquarters (HQ).</p> <p>- Production/Fielding Coordination for CS18 Products and Services: Synchronize the integration of the CS package into the Brigade Combat Team (BCT) consisting of multiple network systems, on various configurations of Mine Resistant Ambush Protected (MRAP) and High Mobility Multipurpose Wheeled Vehicle (HMMWV) platforms, at multiple locations. Complete synchronization, integration, and coordination of CS Fielding for the following CS18 Units (five (5) total): field upgrade to LTI to two (2) Total Army Analysis (TAA) 2020 IBCTs, one (1) TAA 2020 IBCT (OCONUS), one (1) TAA Army National Guard (ARNG) IBCT, and one (1) ARNG Division Headquarters (HQs). Coordinate the integrated designs by platform, role, echelon, and BCT for CS18 including LTI. Finalize CS18 fielding requirements. Develop and manage the Integrated Master Schedule (IMS) for CS18. Coordinate A-Kit design, development and production and B-Kit's Integration Kit (IK) design, between system and platforms Program Executive Offices (PEOs) and Program Managers (PMs) for CS18. Coordinate the delivery of prototype and production builds for CS18. Support Configuration Management (CM) of platform configuration implementations, designs, A-Kits, and B-Kits. Support fielding integration of Program of Record (PoR) assets in</p> | | | |

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| Exhibit R-2A, RDT&E Project Justification: PB 2019 Army | | Date: February 2018 | |
| Appropriation/Budget Activity 2040 / 5 | R-1 Program Element (Number/Name) PE 0604798A / <i>Brigade Analysis, Integration and Evaluation</i> | Project (Number/Name) DY5 / <i>Production/Field Coordination for Capability Sets</i> | |
| B. Accomplishments/Planned Programs (\$ in Millions) | | FY 2017 | FY 2018 |
| <p>accordance with the defined BCT Reference architecture. Coordinate planning and execution of unit meetings, site inventories, A/B kit deliveries, chalk vehicle block schedules, assessment of Fully Mission Capable condition and integration of vehicle schedules (both component and complete vehicle installations). Coordinate and publish a synchronized New Equipment Training / New Equipment Fielding (NET/NEF) Integrated Master Schedule (IMS) for CS18 gaining units.</p> <p>- Production/Fielding Coordination for CS19 Products and Services: Conduct synchronization and coordination of CS Fielding for the following CS19 Units (four (4) Total): one (1) ARNG IBCT, one (1) ARNG Division HQ, two (2) TAA IBCT with LTI (including one OCONUS). Execute a synchronized New Equipment Training /New Equipment Fielding (NET/NEF) Integrated Master Schedule (IMS) for fielding of CS19 to all gaining units. Begin CS19 NET/NEF requirements definition finalization and development of the NET/NEF integrated master schedule. This includes scheduling Program of Record unique NET, System of Systems NET (Capability Set holistic classes), and property accountability handoffs as an integrated process to enhance efficiency of the brigade modernization events.</p> <p>- Engineering and Integration Effort to develop and maintain CS and Sync Fielding specific Integrated Master Schedule (IMS): Develop and maintain an IMS for the Army's Capability Set ? Synchronized Fielding (CSSF) efforts. Close out the IMS for FY17, maintain the IMS for FY18 and FY19 and develop initial IMSs for FYs 20, 21 and 22. Collect and analyze sub-schedule performance against the baseline IMS to identify schedule risks for the Army's CSSF efforts. Validate that established integration points are achievable and, if not, identify the schedule risk. Analyze schedule performance against schedule baseline, identify variances and their causes, and identify risks and/or impacts to critical path. Perform ?what if? schedule analysis of alternative program courses of action to determine impact on schedule critical path. Update and post schedules on SharePoint for visibility and increased collaboration across ASA (ALT). Participate in After Action Reviews, Lessons Learned, Synchronized Fielding Technical Exchange Meetings (TEMs). Provide scheduling reports and briefings to meet the needs of the CSSF community. It also includes Capability Sync Fielding IMS and briefings and IMS analysis reports. Coordinate, develop, and publish a synchronized New Equipment Training/New Equipment Fielding (NET/NEF) Integrated Master Schedule (IMS) for fielding of CS to all gaining units.</p> <p>FY 2019 Plans: These funds provide for the following: - Production/Fielding Coordination for CS: Development, coordination, and execution management of the CS Fielding plan needed to produce, integrate, and field NIE tested Brigade improvements to the BCTs. Synchronize the integration and coordinate CS Fielding including CS18 closeout, CS19 execution, and detail plan for CS20 along with high level planning for CS20/21. This effort funds government and contractor personnel and travel to unit location and fielding sites for planning and coordination of resources, integrated schedule, training and fielding across CS Programs of Record (PoR). It does not fund the production, physical integration, or fielding of the CS.</p> | | | |

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| Exhibit R-2A, RDT&E Project Justification: PB 2019 Army | | Date: February 2018 | |
| Appropriation/Budget Activity 2040 / 5 | R-1 Program Element (Number/Name) PE 0604798A / <i>Brigade Analysis, Integration and Evaluation</i> | Project (Number/Name) DY5 / <i>Production/Field Coordination for Capability Sets</i> | |
| B. Accomplishments/Planned Programs (\$ in Millions) | | FY 2017 | FY 2018 |
| <p>- Production/Fielding Coordination for CS18 Products and Services: Complete training and fielding of CS 18 units. Final close out of Materiel Fielding documentation and After Action Reports (AARs) for this includes synchronization, integration, and coordination of CS Fielding for the following CS18 Units (two (2) total): field upgrade to LTI for one (1) Total Army Analysis (TAA) IBCTs and one (1) TAA IBCT plus an LTI. Coordinate and execute the PM Mission Network (WIN-T Inc 2) TCN Lite fielding and the cascading/disposition of the TCN Heavy variants and two (2) BCT NCR SNE reduction efforts.</p> <p>- Production/Fielding Coordination for CS19 Products and Services: Synchronize the integration of the CS package into the Brigade Combat Team (BCT) consisting of multiple network systems, on various configurations of Joint Light Tactical Vehicle (JLTV), Mine Resistant Ambush Protected (MRAP) and High Mobility Multipurpose Wheeled Vehicle (HMMWV) platforms, at multiple locations. Complete synchronization, integration, and coordination of CS Fielding for the following CS19 Units (two (2) total): one (1) IBCT (OCONUS) and one (1) TAA IBCT with LTI (OCONUS). Synchronize the schedule for the execution of five Brigade Combat Team NCR SNE Reduction efforts and five Brigade Combat Team TCN Lite fieldings and corresponding TCN Heavy cascade/disposition. Coordinate the integrated designs by platform, role, echelon, and BCT for CS19 including LTI. Finalize CS19 fielding requirements. Develop and manage the Integrated Master Schedule (IMS) for CS19. Coordinate A-Kit design, development and production and B-Kit's Integration Kit (IK) design, between system and platform Program Executive Offices (PEOs) and Program Managers (PMs) for CS19. Coordinate the delivery of prototype and production builds for CS19. Support Configuration Management (CM) of platform configuration implementations, designs, A-Kits, and B-Kits. Support fielding integration of Program of Record (PoR) assets in accordance with the defined BCT network architecture. Coordinate planning and execution of unit meetings, site inventories, A/B kit deliveries, chalk vehicle block schedules, assessment of Fully Mission Capable condition and integration of vehicle schedules (both component and complete vehicle installations). Coordinate and publish a synchronized New Equipment Training /New Equipment Fielding (NET/NEF) Integrated Master Schedule (IMS) for CS19 gaining units.</p> <p>- Production/Fielding Coordination for CS20 Products and Services: Conduct planning, synchronization and coordination of CS Fielding for the following CS20 Units (two (2) total): two (2) TAA IBCT with LTI. Coordinate for the execution of FY20 TCN Lite fielding and the cascading/disposition of the TCN Heavy variants. Execute a synchronized New Equipment Training /New Equipment Fielding (NET/NEF) Integrated Master Schedule (IMS) for fielding of CS20 to all gaining units. Begin CS20 NET/NEF requirements definition finalization and development of the NET/NEF integrated master schedule. This includes scheduling Program of Record unique NET, System of Systems NET (Capability Set holistic classes), and property accountability handoffs as an integrated process to enhance efficiency of the brigade modernization events.</p> | | | |

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| Exhibit R-2A, RDT&E Project Justification: PB 2019 Army | | | | | | | Date: February 2018 | | | | |
| Appropriation/Budget Activity 2040 / 5 | | | R-1 Program Element (Number/Name) PE 0604798A / Brigade Analysis, Integration and Evaluation | | | Project (Number/Name) DY5 / Production/Field Coordination for Capability Sets | | | | | |
| B. Accomplishments/Planned Programs (\$ in Millions) | | | | | | | FY 2017 | FY 2018 | FY 2019 | | |
| <p>- Engineering and Integration coordination/planning efforts to develop and maintain CS unit-specific Network Basis of Issue (NBOI) architecture and Integrated Master Schedule (IMS): Developed and maintained unit-specific NBOI and IMS for the Army's Capability Set ? Synchronized Fielding (CSSF) efforts. Prepared ?as-built? NBOI and final IMS for units fielded during FY18, maintained unit-specific NBOI and IMS for units designated to undergo CS integration in FY19-20, and developed initial (draft-level) NBOI and IMS for planned units in FY21 thru FY23. Organized, prepared, and conducted incremental technical reviews to examine and assess key/crucial planning activities and associated data product development supporting CS integration at specific fielded locations. Collected and analyzed sub-schedule performance against the baseline IMS to identify schedule risks for the Army's CSSF efforts. Validated that established incremental integration points were achievable and, if not, identified the risk to schedule. Analyzed schedule and cost performance against schedule established baselines, identified variances and their causes, and identified risks and/or impacts to critical path. Performed ?what if? schedule and cost analyses of alternative program courses of action to determine impact on schedule critical path and mission requirements. Updated and posted schedules on SharePoint for visibility and increased collaboration across the entire CS community to include ASA (ALT). Led or participated in other key technical reviews to include: After Action Reviews, Lessons Learned, Synchronized Fielding Technical Exchange Meetings (TEMs) and mini-TEMs. Provided reports and briefings to key CS stakeholders to support mutual programmatic goals and objectives and to help resolve issues and concerns affecting the CS community at-large. Identified key program risks as well as specific risk mitigation plans. Coordinated, prepared, and published a synchronized New Equipment Training / New Equipment Fielding (NET/NEF) Integrated Master Schedule (IMS) for CS fielding to all gaining units.</p> <p>FY 2018 to FY 2019 Increase/Decrease Statement: Increases to personnel costs (COLA & salary increases).</p> | | | | | | | | | | | |
| Accomplishments/Planned Programs Subtotals | | | | | | | 4.660 | 4.261 | 4.242 | | |
| C. Other Program Funding Summary (\$ in Millions) | | | | | | | | | | | |
| Line Item | FY 2017 | FY 2018 | FY 2019 Base | FY 2019 OCO | FY 2019 Total | FY 2020 | FY 2021 | FY 2022 | FY 2023 | Cost To Complete | Total Cost |
| • DY3: NIE Test & Evaluation | 41.885 | 58.395 | 22.683 | - | 22.683 | 23.530 | 23.677 | 23.541 | 23.508 | Continuing | Continuing |
| • DY7: Army Systems Engineering, Architecture and Analysis | 18.802 | 15.508 | 15.610 | - | 15.610 | 24.377 | 24.760 | 25.449 | 25.939 | Continuing | Continuing |
| • DZ6: Army Integration & Coordination Management | 8.915 | 6.775 | 6.753 | - | 6.753 | 6.889 | 6.987 | 7.132 | 7.550 | Continuing | Continuing |
| • FG7: Emerging Technology Initiatives | 27.665 | 60.421 | 0.000 | - | 0.000 | - | - | - | - | Continuing | Continuing |

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| Exhibit R-2A, RDT&E Project Justification: PB 2019 Army | | | | | | | | | | Date: February 2018 | | |
| Appropriation/Budget Activity 2040 / 5 | | | | R-1 Program Element (Number/Name) PE 0604798A / <i>Brigade Analysis, Integration and Evaluation</i> | | | | Project (Number/Name) DY5 / <i>Production/Field Coordination for Capability Sets</i> | | | | |
| C. Other Program Funding Summary (\$ in Millions) | | | | | | | | | | | | |
| | <u>Line Item</u> | <u>FY 2017</u> | <u>FY 2018</u> | <u>FY 2019</u> <u>Base</u> | <u>FY 2019</u> <u>OCO</u> | <u>FY 2019</u> <u>Total</u> | <u>FY 2020</u> | <u>FY 2021</u> | <u>FY 2022</u> | <u>FY 2023</u> | <u>Cost To</u> <u>Complete</u> | <u>Total Cost</u> |
| Remarks | | | | | | | | | | | | |
| D. Acquisition Strategy | | | | | | | | | | | | |
| This project does not have any requirement for direct procurement of hardware or software. | | | | | | | | | | | | |
| E. Performance Metrics | | | | | | | | | | | | |
| N/A | | | | | | | | | | | | |

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| Exhibit R-3, RDT&E Project Cost Analysis: PB 2019 Army | | | | | | | | | | | | | Date: February 2018 | | |
| Appropriation/Budget Activity 2040 / 5 | | | | | | R-1 Program Element (Number/Name) PE 0604798A / <i>Brigade Analysis, Integration and Evaluation</i> | | | | Project (Number/Name) DY5 / <i>Production/Field Coordination for Capability Sets</i> | | | | | |
| Product Development (\$ in Millions) | | | | FY 2017 | | FY 2018 | | FY 2019 Base | | FY 2019 OCO | | FY 2019 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 |
| Production/Fielding Coordination for Capability Sets | TBD | Various Note: 1 : TBD | 9.653 | 4.660 | Nov 2016 | 4.261 | Nov 2017 | 4.242 | Nov 2018 | - | | 4.242 | Continuing | Continuing | Continuing |
| Subtotal | | | 9.653 | 4.660 | | 4.261 | | 4.242 | | - | | 4.242 | Continuing | Continuing | N/A |
| Remarks Note: 1 - Program Activities performed at TACOM (Warren MI) and CS units location receiving fielding. - Program Integration support through various PMs, PEOs, RDECOM. | | | | | | | | | | | | | | | |
| Support (\$ in Millions) | | | | FY 2017 | | FY 2018 | | FY 2019 Base | | FY 2019 OCO | | FY 2019 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 |
| Facilities and IT Support | TBD | Various Note:1 : TBD | 0.694 | - | | - | | - | | - | | - | 0.000 | 0.694 | - |
| Subtotal | | | 0.694 | - | | - | | - | | - | | - | 0.000 | 0.694 | N/A |
| Remarks Note: 1 - Program Activities performed at TACOM (Warren MI) and CS units location receiving fielding. | | | | | | | | | | | | | | | |
| | | | Prior Years | FY 2017 | | FY 2018 | | FY 2019 Base | | FY 2019 OCO | | FY 2019 Total | Cost To Complete | Total Cost | Target Value of Contract |
| Project Cost Totals | | | 10.347 | 4.660 | | 4.261 | | 4.242 | | - | | 4.242 | Continuing | Continuing | N/A |
| Remarks | | | | | | | | | | | | | | | |

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Exhibit R-4, RDT&E Schedule Profile: PB 2019 Army

Date: February 2018

Appropriation/Budget Activity

2040 / 5

R-1 Program Element (Number/Name)

PE 0604798A / *Brigade Analysis, Integration and Evaluation*

Project (Number/Name)

DY5 / *Production/Field Coordination for Capability Sets*

| Event Name | FY 2017 | | | | FY 2018 | | | | FY 2019 | | | | FY 2020 | | | | FY 2021 | | | | FY 2022 | | | | FY 2023 | | | |
|-----------------------------------|---------|---|---|---|---------|---|---|---|---------|---|---|---|---------|---|---|---|---------|---|---|---|---------|---|---|---|---------|---|---|---|
| | 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 |
| CS17 Capability Set | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| CS17 Build & Integration | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| CS18 Capability Set | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| CS18 Architecture Design | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| CS18 Build & Integration | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| CS18 NEW Equipment Training (NET) | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| CS18 NEW Equipment Fielding (NEF) | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| CS19 Capability Set | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| CS19 Architecture Design | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| CS19 Build & Integration | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| CS19 NEW Equipment Training (NET) | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| CS19 NEW Equipment Fielding (NEF) | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| CS20 Capability Set | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

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| Exhibit R-4, RDT&E Schedule Profile: PB 2019 Army | | | | | | | | | | | | | | | | Date: February 2018 | | | | | | | | | | | | | | | | | | | | | |
| Appropriation/Budget Activity 2040 / 5 | | | | | | | | | | R-1 Program Element (Number/Name) PE 0604798A / <i>Brigade Analysis, Integration and Evaluation</i> | | | | | | | | Project (Number/Name) DY5 / <i>Production/Field Coordination for Capability Sets</i> | | | | | | | | | | | | | | | | | | | |
| Event Name | | | | | | | | | | FY 2017 | | | | FY 2018 | | | | FY 2019 | | | | FY 2020 | | | | FY 2021 | | | | FY 2022 | | | | FY 2023 | | | |
| | | | | | | | | | | 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 |
| CS20 Architecture Design | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| CS20 Build & Integration | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| CS20 NEW Equipment Training (NET) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| CS20 NEW Equipment Fielding (NEF) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

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| Exhibit R-4A, RDT&E Schedule Details: PB 2019 Army | | | Date: February 2018 |
| Appropriation/Budget Activity 2040 / 5 | R-1 Program Element (Number/Name) PE 0604798A / <i>Brigade Analysis, Integration and Evaluation</i> | Project (Number/Name) DY5 / <i>Production/Field Coordination for Capability Sets</i> | |

Schedule Details

| Events | Start | | End | |
|-----------------------------------|----------------|-------------|----------------|-------------|
| | Quarter | Year | Quarter | Year |
| CS17 Capability Set | 2 | 2015 | 2 | 2018 |
| CS17 Architecture Design | 2 | 2015 | 3 | 2016 |
| CS17 Build & Integration | 3 | 2015 | 4 | 2017 |
| CS18 Capability Set | 3 | 2017 | 1 | 2019 |
| CS18 Architecture Design | 3 | 2017 | 1 | 2018 |
| CS18 Build & Integration | 2 | 2018 | 4 | 2018 |
| CS18 NEW Equipment Training (NET) | 2 | 2018 | 1 | 2019 |
| CS18 NEW Equipment Fielding (NEF) | 2 | 2018 | 1 | 2019 |
| CS19 Capability Set | 1 | 2018 | 2 | 2019 |
| CS19 Architecture Design | 1 | 2017 | 2 | 2018 |
| CS19 Build & Integration | 3 | 2017 | 4 | 2019 |
| CS19 NEW Equipment Training (NET) | 1 | 2019 | 1 | 2020 |
| CS19 NEW Equipment Fielding (NEF) | 1 | 2019 | 2 | 2020 |
| CS20 Capability Set | 1 | 2018 | 2 | 2021 |
| CS20 Architecture Design | 1 | 2018 | 2 | 2019 |
| CS20 Build & Integration | 3 | 2018 | 4 | 2020 |
| CS20 NEW Equipment Training (NET) | 1 | 2020 | 2 | 2021 |
| CS20 NEW Equipment Fielding (NEF) | 1 | 2020 | 2 | 2021 |

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| Exhibit R-2A, RDT&E Project Justification: PB 2019 Army | | | | | | | | | | Date: February 2018 | | |
| Appropriation/Budget Activity 2040 / 5 | | | | | R-1 Program Element (Number/Name) PE 0604798A / Brigade Analysis, Integration and Evaluation | | | | Project (Number/Name) DY7 / Army Systems Engineering, Architecture & Analysis | | | |
| COST (\$ in Millions) | Prior Years | FY 2017 | FY 2018 | FY 2019 Base | FY 2019 OCO | FY 2019 Total | FY 2020 | FY 2021 | FY 2022 | FY 2023 | Cost To Complete | Total Cost |
| DY7: Army Systems Engineering, Architecture & Analysis | - | 18.802 | 15.508 | 15.610 | - | 15.610 | 24.377 | 24.760 | 25.449 | 25.939 | 0.000 | 150.445 |
| Quantity of RDT&E Articles | - | - | - | - | - | - | - | - | - | - | | |

A. Mission Description and Budget Item Justification

This project provides the Army's leadership and materiel developers with the necessary modernization planning, System of Systems (SoS) engineering, technical analysis, architectural products, critical path analysis, and risk analysis and mitigation planning to influence the Army's materiel portfolio. This project defines and executes its mission in the context of a SoS Engineering Management Plan (SoSEMP), that provides comprehensive engineering, analysis and architecture processes across early CS requirements and roadmap development; engineering and analysis tasks; lab and field risk reduction efforts; capability assessments, and unit-specific architectural planning support to boots-on-the-ground synchronized fielding execution. This project also funds Cyber Security engineering, architecture and development tasks necessary to create effective, affordable and secure network capabilities that address critical gaps, meet Mission Command Network (MCN) 2020 objectives and/or Force 2025 and Beyond (F2025B) initiatives. This project also funds engineering synchronization oversight and governance for the Army SoS Common Operating Environment (COE). This effort includes analysis of integrated capabilities, requirements decomposition and alignment, and resource and acquisition synchronization. This project includes support to other Department of Defense (DOD) and international agencies for joint programs and collaboration efforts.

Key tasks are Reference Architecture products; Architecture Planning Analysis, Integration and Coordination; Engineering Analysis and Design; Portfolio Analysis; Integrated Master Schedule (IMS); Integration Risk Identification, Mitigation, Plans and Reports; Strategic Process and Planning; Future Capability Sets Planning Integration and Engineering; CS Products and Services.

The effort includes costs for labor (Government and contractor), service contracts, travel, training, supplies, facilities, and Information Technology (IT) support. This effort funds support for both SoSE&I and the Army Rapid Capabilities Office (RCO).

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

| | FY 2017 | FY 2018 | FY 2019 |
|---|----------------|----------------|----------------|
| Title: Army System of Systems Engineering and Analysis | 13.029 | 10.509 | 10.841 |
| Description: Provide coordinated SoS engineering, architectures, and analysis products for integrating new technologies with existing capabilities to stakeholders (e.g. materiel developers, TRADOC Capability Manager (TCM), Army Capabilities Integration Center (ARCIC), etc.) to deliver integrated solutions to Army formations. | | | |
| FY 2018 Plans: Army Formation Reference Architecture products: | | | |

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| Exhibit R-2A, RDT&E Project Justification: PB 2019 Army | | Date: February 2018 | |
| Appropriation/Budget Activity 2040 / 5 | R-1 Program Element (Number/Name) PE 0604798A / <i>Brigade Analysis, Integration and Evaluation</i> | Project (Number/Name) DY7 / <i>Army Systems Engineering, Architecture & Analysis</i> | |
| B. Accomplishments/Planned Programs (\$ in Millions) | | FY 2017 | FY 2018 |
| <p>Develop and maintain all Army Combat Formations (Corps & below) SoS architecture and integration products. These products are used to design Objective, Base, and Modified Table of Organization & Equipment (TOE) for demonstration/test environments (e.g. NIE, Operational Test, and Army Interoperability Certification).</p> <p>Four core recurring products are:</p> <ul style="list-style-type: none"> - Integrated Basis of Issue Plan (IBOIP): detailed database and spreadsheets describing the objective, basic, and modified TOE, TRADOC required BOI system placements, etc. - SoS View Diagram: Visual reference document diagramming all Soldier and platform roles, and their network connectivity and waveform assignments to each other as dictated by the IBOIP. - Vehicle Interconnectivity Diagram (VID): Visual reference document diagramming software (operating systems, applications, etc), hardware (radios, computers, antennae's, routers/switches, etc.), internal/external networks (protocols, ports, gateways, etc.), and waveforms (frequency bands) are connected for individual platforms. - SoS Thread: Visual reference diagram documenting technical use cases of the SoS architecture and the data/message flows throughout Brigade and below based on Army universal task lists, Army Interoperability Certification, and Joint Common System Function List. <p>Architecture Planning Analysis, Integration and Coordination:</p> <p>These funds provide for the development of products which are necessary for modernization planning, technical and risk analysis, mitigation planning, and SoS engineering. It includes Cyber and Position Navigation & Timing (PNT) as well as Division & Corps echelons as it pertains to architecture development to meet MCN 2020 and F2025B initiatives.</p> <p>Engineering Analysis & Design:</p> <p>These funds provide support to the Army's Network Modernization Strategy (NMS) and Capability Needs Assessment (CNA) at the tactical and enterprise levels. Network Modernization engineering will include support for PNT integration into the overall CS design, Multinational/Mission Partner Environments architecture development, Army defensive/offensive cyber capabilities integrated at both the tactical and enterprise levels, network modernization risks/gaps for Corps level units and below, and Army spectrum strategy.</p> <p>Analyze Programs of Record (PoRs) and emerging technologies to maximize Warfighter effectiveness under cost, within schedule and meeting technology readiness constraints. Perform cross-PEO integration and performance issues analysis. Develop strategic plans for providing key technologies in support of Army gaps. Conduct analyses of technical and performance requirements to support technology insertion for Warfighter capability (ie. Intel-related operations, spectral assignment risk mitigation, and PNT architecture placement).</p> | | | |

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| B. Accomplishments/Planned Programs (\$ in Millions) | | | FY 2017 | FY 2018 | FY 2019 |
| <p>IMS:</p> <p>These funds provide a reliable IMS that synchronizes engineering, architecture, PoRs, network evaluation, and CS fielding schedules to ensure their alignment to the Program Objective Memorandum (POM) and the Army Force Generation (ARFORGEN) cycles. Efforts include implementation of IMS tools for POR input, analyses of Platform schedules, and MCN 2020 network components schedules to identify issues and opportunities. These funds also provide for analysis of Program Executive Office (PEO) portfolios and their IMS which identifies opportunities to incorporate capabilities earlier into CS configurations.</p> <p>Integration Risk Identification, Mitigation, Plans and Reports:</p> <p>These funds provide strategic planning in support of network modernization objectives and CNA efforts. It provides analysis of objectives, potential risks and mitigation plans to capability delivery.</p> <p>Strategic Process and Planning:</p> <p>These funds provide for strategic planning to achieve MCN 2020 FES, F2025B, and emerging solutions, to include: Strategic Planning Review events, Road map to MCN 2020 validation, Agile Process Standard Operating Procedure adaptation for rapid acquisition, Network Synchronization Working Group outcomes analysis, Proponent Integrated Product Teams (IPT), and database improvements to track/report progress.</p> <p>- Integration Engineering Planning and Execution of Capability Sets (IEP&E-CS):</p> <p>These funds provide for the advanced collaboration and coordination with platform and network system Product Managers (PdMs) to ensure CS Fielding platform integration design decisions are based on CS Reference Architecture products for CS18-23 to be evaluated in Network Integration Evaluation (NIE) events. Develop the Unit-specific architecture (e.g., Network Basis of Issue (NBOI), Unit Transport Design (TD), etc.) for CS Fieldings. Engineering coordination with platform and equipment integrators to ensure component level equipment is designed to meet platform level integrated design requirements established in the Unit NBOI and validate the integrated architecture design is functional.</p> <p>Develop the unit integration design for each CS. Update and transition architecture products to stakeholders by utilizing Unit specific NBOIs based on property book/maintenance analysis and physical inventory comparisons of Forces Command (FORSCOM) assets. Assess, synchronize, and status the production and installation of CS products and processes for platform integration and installation at the integration facilities to meet delivery schedules. Document and continuously improve engineering activities and process flows for efficiencies. Work with stakeholders to resolve problems such as conflicting requirements, funding and priorities. Seek innovative solutions to efficiently accomplish multiple efforts within allocated resources. Develop CS engineering products to include processes, schedule, established technical baselines through Technical Exchange Meetings (TEMs) and synchronization across stakeholder organizations.</p> <p>- IEP&E-CS: CS18</p> | | | | | |

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| B. Accomplishments/Planned Programs (\$ in Millions) | | | FY 2017 | FY 2018 | FY 2019 |
| <p>Synchronize and monitor platform and network system Size, Weight and Power (SWaP) assessment of Unit specific Architectures in collaboration and coordination with platform and network system PMs. Coordinate NRE funding requirements and delivery/production schedules with the Synchronized Fielding (SF) ? Fielding team to ensure production schedules are met to field selected systems. Develop, update, and finalize the unit specific NBOI, assist in site inventory and analysis, develop CS vehicle/equipment configurations, develop the CS Non-Recurring Engineering (NRE) integration configurations for design (based on NIE Original Equipment Manufacturer involvement). Provide integration status of equipment designs by platform, role, echelon and by BCT for the following CS18 Units (five (5) total): field upgrade to LTI to two (2) Total Army Analysis (TAA) 2020 IBCTs, one (1) TAA 2020 IBCT (OCONUS), one (1) TAA ARNG IBCT and one (1) ARNG Division Headquarters (HQs).</p> <p>- IEP&E-CS; CS19 Products and Services: Evaluate, synchronize, and monitor platform and network system program acquisition schedules, integration costs, and system requirements across organizations for the development of production ready A&B-kit Interface Control Documents (ICDs) and Level II Technical Data Packages (TDPs) supporting CS19 Unit specific baseline evaluations in collaboration and coordination with platform and network system PMs. Synchronize CS program schedules through coordination and communication with System of Systems Engineering and Integration (SoSE&I) Engineering and Integration (E&I) and other organizations within and outside of SoSE&I. Coordinate with associated PoRs for the integration, forecasting, procurement, testing and delivery of platform integrated Network equipment for CS baseline evaluations. Vet NBOIs with vehicle and equipment PMs, TCMs, PEOs, G3/5/7 and other stakeholders. Develop, coordinate, document and assess the updated and final LTI integration activities on 700+ platforms and evaluate the integration flow of multiple production lines of numerous platform types. Develop, update, and finalize the Unit specific NBOIs (one for each Unit touched) and are then vetted with platform and equipment PMs, TRADOC Capability Managers (TCMs), Program Executive Offices (PEOs), G3/5/7, FORSCOM and other stakeholders. Perform Property Book Unit Supply Enhanced (PBUSE) and Standard Army Maintenance System (SAMS) unit analyses to determine the serial and bumper numbers that are used to align platform roles by echelon (based on the Modified Table of Organization and Equipment (MTOE) and Objective Table of Organization and Equipment (OTOE)). Assist in Unit Inventories to confirm vehicle and legacy equipment configurations, confirm vehicle roles and identify/coordinate in lieu of vehicles for shortages. Develop NRE designs for platform and equipment (legacy and CS) configurations that will be required for Safety Release/Confirmation (SR/SC) testing. Coordinate with platform PMs the NRE configurations that are combined to develop a CS Golden platform design candidate list to minimize SR/SC costs. Monitor and assess the development and maturation of the A-kit design and ensure the installation manuals and technical data packages produce a repeatable and consistent integration process to support new equipment fieldings.</p> <p>- IEP&E-CS; CS20-23 Products and Services: Evaluate and synchronize platform and network system SWaP assessment of Network Architectures in collaboration and coordination with platform and network system PMs in support of the CS20-23 Reference Architectures. Evaluate, synchronize,</p> | | | | | |

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| B. Accomplishments/Planned Programs (\$ in Millions) | | | FY 2017 | FY 2018 | FY 2019 |
| <p>and track platform and network system integration risks and mitigation plans for execution to the NBOI identified in collaboration and coordination with platform and network system PMs.</p> <p>Evaluate, synchronize and track disconnects in platform and network system program acquisition schedules, integration costs, and system requirements across organizations for the development of production ready A&B-kit ICDs and Level II TDPs supporting CS20-23 baseline evaluations. Resolve and elevate operational, technical and programmatic issues for Initial and Reference Architecture Products in collaboration and coordination with SoSE&I-E&I, platform PMs, network system PMs and TCMs. Synchronize CS program schedules through coordination and communication with other organizations within and outside of SoSE&I. Coordinate with associated PoRs for the management, integration, forecasting, procurement, testing and delivery of platform integrated Network equipment for CS baseline evaluations. Support PMs and PEOs in resolution of tasks associated with Network integration. Evaluate, synchronize, and track PM implementation of Vehicular Integration for Command, Control, Communication, Computers, Intelligence, Surveillance, Reconnaissance (C4ISR) / Electronic Warfare (EW) Interoperability (VICTORY) standards in Initial and CS20-23 Reference Architecture products. Begin the planning for CS20-23 Unit specific NBOI requirements and develop and coordinate the IMS with all stakeholders.</p> <p>FY 2019 Plans:</p> <p>Army Formation Reference Architecture products:</p> <p>Develop and maintain all Army Combat Formations (Corps & below) SoS architecture and integration products. These products are used to design Objective, Base, and Modified Table of Organization & Equipment (TOE) for demonstration/test environments (e.g. NIE, Operational Test, and Army Interoperability Certification).</p> <p>Four core recurring products are:</p> <ul style="list-style-type: none"> - Network Basis of Issue (NBOI): detailed database and spreadsheets describing the objective, basic, and modified TOE, TRADOC required BOI system placements, network and subnet assignment data, etc. - SoS View Diagram: Visual reference document diagramming all Soldier and platform roles, and their network connectivity and waveform assignments to each other as dictated by the NBOI. - Vehicle Interconnectivity Diagram (VID): Visual reference document diagramming software (operating systems, applications, etc), hardware (radios, computers, antennae's, routers/switches, etc.), internal/external networks (protocols, ports, gateways, etc.), and waveforms (frequency bands) are connected for individual platforms. - SoS Thread: Visual reference diagram documenting technical use cases of the SoS architecture and the data/message flows throughout Brigade and below based on Army universal task lists, Army Interoperability Certification, and Joint Common System Function List. <p>Architecture Planning Analysis, Integration and Coordination:</p> <p>These funds provide for the development of products which are necessary for modernization planning, technical and risk analysis, mitigation planning, and SoS engineering. It includes Cyber and Position Navigation & Timing (PNT) as well as Division & Corps echelons as it pertains to architecture development to meet MCN 2020 and F2025B initiatives.</p> | | | | | |

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| B. Accomplishments/Planned Programs (\$ in Millions) | | | FY 2017 | FY 2018 | FY 2019 |
| <p>Engineering Design & Analysis: These funds provide support to engineering and analysis on current critical network shortfalls to address how the Army achieve expeditionary, uninterrupted mission command; through a network comprised of intuitive, secured, standards-based capabilities adapted to commander's requirements; and integrated into a common operating environment, with network capabilities that are assured, interoperable, tailorable, collaborative, identity-based, and accessible at the point of need in operations that include unified action partners.</p> <p>Network Modernization engineering will include the 10 modernization priorities to address critical capability shortfalls : 1) Air and Missile Defense; 2) Long-Range Fires; 3) Munitions Shortfalls; 4) Mobility, Lethality, and Protection of Brigade Combat Teams; 5) Active Protection Systems (air and ground); 6) Assured Position, Navigation, and Timing (PNT); 7) Electronic Warfare; 8) Offensive and Defensive Cyber Capabilities; 9) Assured Communications ; and 10) Vertical Lift.</p> <p>Analyze Programs of Record (PoRs) and emerging technologies to maximize Warfighter effectiveness under cost, within schedule and meeting technology readiness constraints. Perform cross-PEO System of system engineering, integration and performance analysis. Develop strategic plans for providing key technologies in support of Army critical gaps or shortfalls. Conduct analyses of technical and performance requirements to support technology insertion for Warfighter capability (ie. Intel-related operations, spectral assignment risk mitigation, and PNT architecture placement).</p> <p>IMS: These funds provide a reliable IMS that synchronizes engineering, architecture, PoRs, network evaluation, and CS fielding schedules to ensure their alignment to the Program Objective Memorandum (POM) and the Army Force Generation (ARFORGEN) cycles. Efforts include implementation of IMS tools for POR input, analyses of Platform schedules, and MCN 2020 network components schedules to identify issues and opportunities. These funds also provide for analysis of Program Executive Office (PEO) portfolios and their IMS which identifies opportunities to incorporate capabilities earlier into CS configurations.</p> <p>Integration Risk Identification, Mitigation, Plans and Reports: These funds provide strategic planning in support of network modernization objectives and CNA efforts. It provides analysis of objectives, potential risks and mitigation plans to capability delivery.</p> <p>Strategic Process and Planning: These funds provide for strategic planning to achieve MCN 2020 FES, F2025B, and emerging solutions, to include: Strategic Planning Review events, Road map to MCN 2020 validation, Agile Process Standard Operating Procedure adaptation for rapid acquisition, Network Synchronization Working Group outcomes analysis, Proponent Integrated Product Teams (IPT), and database improvements to track/report progress.</p> | | | | | |

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| B. Accomplishments/Planned Programs (\$ in Millions) | | | FY 2017 | FY 2018 | FY 2019 |
| <p>- Integration Engineering Planning and Execution of Capability Sets (IEP&E-CS): These funds provide for the advanced collaboration and coordination with platform and network system Product Managers (PdMs) to ensure CS Fielding platform integration design decisions are based on CS Reference Architecture products for CS18-25 to be evaluated in Network Integration Evaluation (NIE) events. Develop the Unit-specific architecture (e.g., Network Basis of Issue (NBOI), Unit Transport Design (TD), etc.) for CS Fieldings. Engineering coordination with platform and equipment integrators to ensure component level equipment is designed to meet platform level integrated design requirements established in the Unit NBOI and validate the integrated architecture design is functional. Develop the unit integration design for each CS. Update and transition architecture products to stakeholders by utilizing Unit specific NBOIs based on property book/maintenance analysis and physical inventory comparisons of Forces Command (FORSCOM) assets. Assess, synchronize, and status the production and installation of CS products and processes for platform integration and installation at the integration facilities to meet delivery schedules. Document and continuously improve engineering activities and process flows for efficiencies. Work with stakeholders to resolve problems such as conflicting requirements, funding and priorities. Seek innovative solutions to efficiently accomplish multiple efforts within allocated resources. Develop CS engineering products to include processes, schedule, established technical baselines through Technical Exchange Meetings (TEMs) and synchronization across stakeholder organizations. Additional system or systems architecture support is provided to Army organizations to support fielding of modernized network equipment in parallel to CS fielding activities. These activities include architecture development supporting Special Operations Forces (SOF) dismounted radio network, Army watercraft modernization initiatives, and Army wide radio crypto-modernization related divestiture/reallocation/fielding efforts.</p> <p>- IEP&E-CS: CS18 Synchronize and monitor platform and network system Size, Weight and Power (SWaP) assessment of Unit specific Architectures in collaboration and coordination with platform and network system PMs. Coordinate NRE funding requirements and delivery/production schedules with the Synchronized Fielding (SF) ? Fielding team to ensure production schedules are met to field selected systems. Develop, update, and finalize the unit specific NBOI, assist in site inventory and analysis, develop CS vehicle/equipment configurations, develop the CS Non-Recurring Engineering (NRE) integration configurations for design (based on NIE Original Equipment Manufacturer involvement). Provide integration status of equipment designs by platform, role, echelon and by BCT for the following CS18 Units (six (6) total): 2xIBCT retouch (brings CS17 BCT up to full CS18 capability) 1xANG IBCT without lower tactical internet, 1xANG IBCT Division HQ, and 1xIBCT without lower tactical internet.</p> <p>- IEP&E-CS; CS19 Products and Services: Evaluate, synchronize, and monitor platform and network system program acquisition schedules, integration costs, and system requirements across organizations for the development of production ready A&B-kit Interface Control Documents (ICDs) and Level II Technical Data Packages (TDPs) supporting CS19 Unit specific baseline evaluations in collaboration and coordination</p> | | | | | |

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| B. Accomplishments/Planned Programs (\$ in Millions) | | | FY 2017 | FY 2018 | FY 2019 |
| <p>with platform and network system PMs. Synchronize CS program schedules through coordination and communication with System of Systems Engineering and Integration (SoSE&I) Engineering and Integration (E&I) and other organizations within and outside of SoSE&I. Coordinate with associated PoRs for the integration, forecasting, procurement, testing and delivery of platform integrated Network equipment for CS baseline evaluations. Vet NBOIs with vehicle and equipment G3/5/7, G6, G8, PEOs, PMs, TCMs, and other stakeholders. Develop, coordinate, document and assess the updated and final LTI integration activities on 700+ platforms and evaluate the integration flow of multiple production lines of numerous platform types. Develop, update, and finalize the Unit specific NBOIs (one for each Unit touched) and are then vetted with platform and equipment PMs, TRADOC Capability Managers (TCMs), Program Executive Offices (PEOs), G3/5/7, FORSCOM and other stakeholders. Perform Property Book Unit Supply Enhanced (PBUSE) and Standard Army Maintenance System (SAMS) unit analyses to determine the serial and bumper numbers that are used to align platform roles by echelon (based on the Modified Table of Organization and Equipment (MTOE) and Objective Table of Organization and Equipment (OTOE)). Assist in Unit Inventories to confirm vehicle and legacy equipment configurations, confirm vehicle roles and identify/coordinate in lieu of vehicles for shortages. Develop NRE designs for platform and equipment (legacy and CS) configurations that will be required for Safety Release/Confirmation (SR/SC) testing. Coordinate with platform PMs the NRE configurations that are combined to develop a CS Golden platform design candidate list to minimize SR/SC costs. Monitor and assess the development and maturation of the A-kit design and ensure the installation manuals and technical data packages produce a repeatable and consistent integration process to support new equipment fieldings.</p> <p>- IEP&E-CS; CS20-25 Products and Services:</p> <p>Evaluate and synchronize platform and network system SWaP assessment of Network Architectures in collaboration and coordination with platform and network system PMs in support of the CS20-23 Reference Architectures. Evaluate, synchronize, and track platform and network system integration risks and mitigation plans for execution to the NBOI identified in collaboration and coordination with platform and network system PMs.</p> <p>Evaluate, synchronize and track disconnects in platform and network system program acquisition schedules, integration costs, and system requirements across organizations for the development of production ready A&B-kit ICDs and Level II TDPs supporting CS20-25 baseline evaluations. Resolve and elevate operational, technical and programmatic issues for Initial and Reference Architecture Products in collaboration and coordination with SoSE&I-E&I, platform PMs, network system PMs and TCMs. Synchronize CS program schedules through coordination and communication with other organizations within and outside of SoSE&I. Coordinate with associated PoRs for the management, integration, forecasting, procurement, testing and delivery of platform integrated Network equipment for CS baseline evaluations. Support PMs and PEOs in resolution of tasks associated with Network integration. Evaluate, synchronize, and track PM implementation of Vehicular Integration for Command, Control, Communication, Computers, Intelligence, Surveillance, Reconnaissance (C4ISR) / Electronic Warfare (EW) Interoperability</p> | | | | | |

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| B. Accomplishments/Planned Programs (\$ in Millions) | | | FY 2017 | FY 2018 | FY 2019 |
| (VICTORY) standards in Initial and CS20-25 Reference Architecture products. Begin the planning for CS20-25 Unit specific NBOI requirements and develop and coordinate the IMS with all stakeholders. | | | | | |
| FY 2018 to FY 2019 Increase/Decrease Statement: Increases to personnel costs (COLA and salary adjustments) | | | | | |
| Title: Common Operating Environment (COE) | | | 3.154 | 1.161 | 1.198 |
| Description: Provide governance and implementation oversight and for the Army SoS Common Operating Environment (COE) and synchronized programmatic planning for COE crossing multiple PEOs and Computing Environments (CEs) in coordination with the Army Staff, Training and Doctrine Command, Research and Development Command, Army Materiel Command, Army Testing and Evaluation Command, the Joint Staff and OSD Staff. This includes providing integrated, cross-portfolio system engineering technical products and configuration management cost benefit analysis, support for TRADOC requirements development and G-8 staffing through AROC approval. Lead COE standards development in support of Army and DoD Standards bodies and integrated architecture development. Provide COE related Verification & Validation (V&V) planning and assessment including management of the Federated Integration Environment, Cross-CE risk reduction and Army Interoperability Certification. Serve as the DA Staff advocate for COE and Cross-Cutting Capabilities (CCCs) development and Application Migration. Provides funding for supervision of Subject Matter Expert Staff used to support execution the tasks following. | | | | | |
| FY 2018 Plans: Engineering Synchronization Oversight and Governance for the Army SoS Common Operating Environment (COE); cross-portfolio system engineering and architecture products; synchronize acquisition planning for COE crossing multiple PEOs and Computing Environments (CEs); and serve as the DA Staff advocate for COE and Cross Cutting Capabilities (CCCs). | | | | | |
| These funds provide continued Oversight and Governance for the Army COE on behalf of the Army Acquisition Executive to include Synchronization of planned COE efforts to deliver the COE materiel solution necessary for the Army to field the Tactical Network envisioned in Mission Command 2020 and Mission Command 2025 guidance. Lead the COE Standards Working Group and provide Data Management of COE policy, guidance, specifications, Engineering Change Proposals, architecture. Advise the Executive Director System of Systems Engineering and Integration and the Army Acquisition Executive on COE matters, provide assessments and reports, and prepares information to support Decision-making. Synchronize analysis, planning information and presentations to inform the Strategic Portfolio Analysis Review (SPAR). | | | | | |
| FY 2019 Plans: This organization provides engineering oversight for Cross-Cutting Capabilities development, standards, interoperability testing and Army Interoperability Certification and Governance for the Army System of Systems Common Operating Environment (COE). Products include cross portfolio system engineering products and architecture; synchronized acquisition planning for COE | | | | | |

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| B. Accomplishments/Planned Programs (\$ in Millions) | | FY 2017 | FY 2018 | FY 2019 |
| <p>crossing multiple PEOs and Computing Environments (CEs); advocacy for COE and Cross Cutting Capabilities (CCCs) within the DA Staff, senior decision bodies and Army commands; oversight of the COE Integration Assessment Program (CIAP); leadership of the COE Standards Working Group; and Data Management of COE policy, guidance, specifications, and Engineering Change Proposals.</p> <p>These funds provide continued oversight and governance for the Army COE on behalf of the Army Acquisition Executive to include synchronization of planned COE efforts to deliver the COE materiel solution necessary for the Army to field the Mission Command tactical network and migration of legacy systems through divestiture. Funds provide staff support to the Executive Director System of Systems Engineering and Integration and the Army Acquisition Executive on COE matters, assessments and reports, and information to support decision-making. Funds provide configuration management, including software version tracking for fielded baselines and configuration management board review of system readiness for certification for to be fielded baselines. Funds provide Federated Integration Environment Coordination. Funding support includes synchronized analysis, planning information and presentations to inform the Strategic Portfolio Analysis Review (SPAR).</p> <p>FY 2018 to FY 2019 Increase/Decrease Statement: Increases to personnel costs (COLA and salary adjustments)</p> | | | | |
| <p>Title: Cyber</p> <p>Description: This project funds cyber support to PEOs/PMs to include cybersecurity support to risk management framework, cyber engineering and architecture development, industry cybersecurity engagement, and cyber program oversight and governance, which ensures the secure, affordable, and effective delivery of Army materiel solutions that address critical Army modernization objectives, as well as the delivery of agile and advanced cyber solutions to equip the Army’s offensive and defensive forces in the cyberspace domain. These funds support synchronization, analysis and integration of Cyber functions and products.</p> <p>FY 2018 Plans: These funds support critical Cyber SMEs for synchronization, analysis and integration of Cyber functions and products. Cyber Programs: - Provide oversight, governance, synchronize and coordinate across the Army for cyberspace operations requirements and capabilities. - Manage the synchronization of multiple efforts between program offices, HQDA, and the Army Cyber Command regarding efforts for the drafting, validation and execution of operational needs statements, appointing an office of primary responsibility, materiel development decisions and other required programmatic support. - Participate in the prioritization of Cyberspace requirements in view of operational imperatives, estimated costs, and available resources; approving an annual plan for cyberspace capability development that assists materiel and capability developers in forecasting resourcing requirements; measuring progress from the prior year’s annual plan and forecasting future requirements.</p> | | 2.086 | 3.256 | 3.359 |

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| Appropriation/Budget Activity 2040 / 5 | | R-1 Program Element (Number/Name) PE 0604798A / <i>Brigade Analysis, Integration and Evaluation</i> | | Project (Number/Name) DY7 / <i>Army Systems Engineering, Architecture & Analysis</i> | |
| B. Accomplishments/Planned Programs (\$ in Millions) | | | FY 2017 | FY 2018 | FY 2019 |
| <ul style="list-style-type: none"> - Maintain the Army's Cyber Acquisition strategy/plan to reflect changes in technology and policy/regulation and to address emerging cyber requirements. - Continue to execute cyber innovation challenges by hosting meetings, conferences, conducting market research, working with the Army Contracting Command, PEO and the Army Cyber Command (ARCYBER) and other efforts. - Expand market research to include academia, Industry, International organizations, and specified cooperative security efforts in order to identify and utilize common cyber efforts. <p>Cyber engineering tasks:</p> <ul style="list-style-type: none"> - Decompose incoming requirements documents for the purpose of gap identification, redundant capability definition or requirement between multiple requirements documents, requirement definition in support of resourcing requirement(s). - Assist in identifying possible vulnerabilities in current weapon systems and analyzing current requirement solutions? concept of operations. - Identify potential commercial industry solutions and techniques used to protect from known and unknown cyber threats. - Analyze what the Army science and technology experts are highlighting as key research areas as it relates to defensive and offensive cyber operations. - Decompose the cyberspace operation requirements to break out the defined Key Performance Parameters and Key System Attributes into clearly defined capabilities, measures of performance and effectiveness, and risks. <p>Cyber Resource Synchronization:</p> <ul style="list-style-type: none"> - Provide guidance and synchronization of ASA(ALT) PEOs and PMs to Army leadership guidance for cyber resourcing and budget efforts. Serve as liaison to ARCYBER, HQDA, and acquisition community with regards to cyber funding. - Prepare reclaims and attend Congressional hearing appeals for cyberspace operations funding marks. - Provide lead coordination and synchronization across ARCYBER, HQDA, and acquisition community for cyclical Planning, Programing, and Budget Execution events. - Lead coordination and synchronization across acquisition community and HQDA for Budget Estimate Submissions and President's Budget P&R Form submissions. - Consolidate and review cost estimates for cyber PoRs/non-PoRs. - Analyze applicable regulations, policy statements, and program guidelines that impact cyber programs. - Provide data, economic, and cost analyses to develop estimates to support program requirements such as program milestones and required DA and OSD reporting. <p>FY 2019 Plans: These funds support synchronization, analysis and integration of Cyber functions and products.</p> <p>Cyber Programs Tasks:</p> | | | | | |

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| Exhibit R-2A, RDT&E Project Justification: PB 2019 Army | | | Date: February 2018 | | |
| Appropriation/Budget Activity 2040 / 5 | | R-1 Program Element (Number/Name) PE 0604798A / <i>Brigade Analysis, Integration and Evaluation</i> | | Project (Number/Name) DY7 / <i>Army Systems Engineering, Architecture & Analysis</i> | |
| B. Accomplishments/Planned Programs (\$ in Millions) | | | FY 2017 | FY 2018 | FY 2019 |
| <p>Manage the Cyber Acquisition Task Force (CATF) to provide to provide oversight and governance of cyber program planning and execution activities to include portfolio prioritization, resourcing alignment, requirements validation (Cyber Needs Forms, Requirements Definition Packages, and Capability Drops) and capability synchronization/deconfliction across OCO, DCO, PCTE, Cyber Situational Understanding, and related DoDIN initiatives.</p> <p>Co-lead Line of Effort (LOE) #3: Capability Development (Army Cyberspace Strategy) and provide weekly updates to the Army Cyberspace Council on the goals and objectives LOE #3 Project Plan in collaboration with TRADOC, ARCYBER, and HQDA. Provide architecture and system of systems engineering support to the cyber program portfolio to ensure solutions are optimally designed for efficiency and effectiveness. Support assignment of office of primary responsibility for emerging programs like Cyber Situational Understanding IS ICD and acquisition decisions for all programs.</p> <p>Serve as primary ASA(ALT) POC for joint deconfliction to include programs such as Unified Platform and Joint Command and Control and Situational Awareness and authorities such as USCYBERCOM's Section 807 Acquisition Authority.</p> <p>Identify disruptive and innovation technology for rapid prototyping for the primary purpose of dramatically improving the security posture of the Army's systems (weapon, business, or C4ISR). Host meetings and demonstrations, conduct market research, and coordinate with Army Contracting Command (ACC), PEOs, ARCYBER, TRADOC, AMC, and RDECOM as required.</p> <p>Establish improved transition of S&T projects into cyber programs of record.</p> <p>Mission Assurance and Resilience:</p> <p>Updates to the Cyber Threat Convergence as related to the current threat actors identified by the intel community.</p> <p>Maintenance of the Cyber Focal SharePoint site as necessary to ensure access to Cyber Focal, Cyber Programs, CIO Governance, Mission Assurance & Resilience, Cybersecurity, Defense Industrial Base, Internal Cyber Focal, HBSS/AESS, Unsupported Software, Windows 10 Migration, IAVM Patching, Cyber Engineering, Cyber Acquisitions Task Force, Innovation Challenge and Cyber I-WSR. Assist with the advancement of electronic patching compliance implementation. Continue to improve and simplify identification and reporting of cyber vulnerabilities.</p> <p>Monitor and facilitate PEO's and PM's migration towards Windows 10 for both their Desktop IT and all Windows based PoRs. Assist and respond with data call requests, synchronization efforts and IPR's from DoD CIO, CIO G6, ARCYBER, and the updates to the VCSA. Provide Army stakeholders with weekly updates to include which systems</p> <p>Monitor and track PEO's and PM's migration out of Windows XP and Server 2003 and report current numbers that will feed the DoD Cybersecurity Scorecard that tracks the use and migration out of unsupported software for all Services.</p> <p>Coordination of DoD and Army PKI and Authentication requirements across PEO's and PM's. Coordinate and review all program briefings, and input to the PKE Exemption SharePoint site.</p> <p>Lead for AVRT design, development and implementation, HBSS/AESS integration, IAVA patching.</p> <p>FY16 NDAA S. 1647 cyber vulnerabilities assessments. Manages, leads and develops annual and final reports, analysis, testing and assessments related to cyber vulnerabilities testing of weapon systems/PoRs. Provides recommendations and guides follow on activities as related to ASA(ALT) weapon systems/PoRs. Supports and leads capstone/Phase 3 NDAA 1647 activities.</p> | | | | | |

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| Exhibit R-2A, RDT&E Project Justification: PB 2019 Army | | | Date: February 2018 | | |
| Appropriation/Budget Activity 2040 / 5 | | R-1 Program Element (Number/Name) PE 0604798A / <i>Brigade Analysis, Integration and Evaluation</i> | | Project (Number/Name) DY7 / <i>Army Systems Engineering, Architecture & Analysis</i> | |
| B. Accomplishments/Planned Programs (\$ in Millions) | | | FY 2017 | FY 2018 | FY 2019 |
| <p>Supports cyber hardening events (1553 bus activities and DCGS-A) and other engagements in terms of FY16 NDAA S. 1647 application, leveraging lessons learned and analyses opportunities to further cyber resiliency goals.</p> <p>Co-lead responsibilities to coordinate, shape, develop and support G 3/5/7 DAMO-CY efforts for the creation of an enduring cyber resiliency program/effort for legacy systems in the Operations and Sustainment phase.</p> <p>Monitor, coordinate and facilitate responses back to DoDIG requirements related to cyber posture and plans in terms of Aviation/ UAS inquiries. In addition, respond and coordinate for audit reports (AAA, DAIG, etc.) that may arise that are related to the cyber mission assurance and resilience area.</p> <p>Support the Wideband Global SATCOM cyber working group with ASA(ALT) Cyber SME input to their study guidance activities. Support, facilitate, and coordinate Supply Chain Risk Management OPT activities and initiatives; analyze, assess and implement recommendations and findings where appropriate to ensure cyber resilience for ASA(ALT) POR?s.</p> <p>Cybersecurity Tasks:</p> <p>Obtain Authorization to Operate (ATOs) for Army Rapid Capabilities (Army RCO) systems through the Risk Management Framework (RMF) for the USAEUR ONS Fielding.</p> <p>Lead the ASA(ALT) community and associated PEOs in preparing for upcoming Command Cyber Readiness Inspections (CCRI), unannounced CCRIIs, and the addition of Command Cyber Operational Readiness Inspections (CCORI). Continue to assist the local NECs with acquiring support for patching, configuring, and implementing Programs of Record to increase cyber posture and achieve passing scores. Continue to support 7th Signal Command as the PEO liaison.</p> <p>Monitor Army Rapid Capabilities (Army RCO) systems through the Risk Management Framework (RMF), complete a Security Controls Assessor-Validator (SCA-V) assessment if systems will continue operation in FY19 and beyond.</p> <p>Defense Industrial Base (DIB) Cyber Security Tasks:</p> <p>Sustain or improve current damage assessment case completion levels at the Defense Cyber Crime Center.</p> <p>Continue to increase the Army acquisition workforce?s awareness of Defense Industrial Base cybersecurity threats and mitigations and minimize unauthorized disclosure of Army information.</p> <p>Engage with the DIB through the DoD CIO DIB CS Program Office to encourage cyber information sharing and address potential long-term issue regarding enhanced cybersecurity and cyber incident damage assessment (CIDA) reporting policies.</p> <p>Deploy final operational capability for the Joint CIDA case management solution to share case data and metrics across all DOD damage assessment management offices and facilitate enterprise-wide risk analysis.</p> <p>In collaboration with the Army Intelligence and Security Command, secure funding to update information technology to meet future damage assessment demands.</p> <p>Work with the OSD Damage Assessment Management Office to modernize damage assessment tool suites to manage increased incident reporting and to identify trends in unauthorized technology transfers.</p> | | | | | |

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| Exhibit R-2A, RDT&E Project Justification: PB 2019 Army | | | | | | | | | Date: February 2018 | | | |
| Appropriation/Budget Activity 2040 / 5 | | | | R-1 Program Element (Number/Name) PE 0604798A / Brigade Analysis, Integration and Evaluation | | | | Project (Number/Name) DY7 / Army Systems Engineering, Architecture & Analysis | | | | |
| B. Accomplishments/Planned Programs (\$ in Millions) | | | | | | | | | FY 2017 | FY 2018 | FY 2019 | |
| Continue to integrate CIDA operations with Joint Acquisition Protection & Exploitation Cell (JAPEC) to facilitate proactive protection of Army controlled technical information (CTI) residing and transiting on contractor-owned systems. Update AR 70-77 to codify CTI identification and safeguarding processes and to improve intelligence support to CIDA process. Conduct cost benefit analysis additional Army resource requirements to meet JAPEC needs. Assist PEOs, PMs, and ASA(ALT) with forecasting costs and resources required with protection of CTI within the DIB, damage assessment recovery operations, and maintaining technology superiority. FY 2018 to FY 2019 Increase/Decrease Statement: Increases to personnel costs (COLA and salary adjustments) | | | | | | | | | | | | |
| Title: Facilities and IT Support Description: Provides funding for infrastructure/facilities and IT support. FY 2018 Plans: Provides funding for infrastructure/facilities. It includes the costs for purchasing/leasing hardware, software, computers, communications equipment and services. FY 2019 Plans: Provides funding for infrastructure/facilities. It includes the costs for purchasing/leasing hardware, software, computers, communications equipment and services. FY 2018 to FY 2019 Increase/Decrease Statement: Decreases to infrastructure costs. | | | | | | | | | 0.533 | 0.582 | 0.212 | |
| Accomplishments/Planned Programs Subtotals | | | | | | | | | 18.802 | 15.508 | 15.610 | |
| C. Other Program Funding Summary (\$ in Millions) | | | | | | | | | | | | |
| Line Item | | FY 2017 | FY 2018 | FY 2019 Base | FY 2019 OCO | FY 2019 Total | FY 2020 | FY 2021 | FY 2022 | FY 2023 | Cost To Complete | Total Cost |
| • DY3: NIE Test & Evaluation | | 41.885 | 58.395 | 22.683 | - | 22.683 | 23.530 | 23.677 | 23.541 | 23.508 | Continuing | Continuing |
| • DY5: Production/Field Coordination for Capability Sets | | 4.660 | 4.261 | 4.242 | - | 4.242 | 4.301 | 4.391 | 4.369 | 4.462 | Continuing | Continuing |
| • DZ6: Army Integration Management & Coordination | | 8.915 | 6.775 | 6.753 | - | 6.753 | 6.889 | 6.987 | 7.132 | 7.550 | Continuing | Continuing |
| • FG7: Emerging Technology Initiatives | | 27.665 | 60.421 | 0.000 | - | 0.000 | - | - | - | - | Continuing | Continuing |

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| Exhibit R-2A, RDT&E Project Justification: PB 2019 Army | | | | | | | | | | Date: February 2018 | |
| Appropriation/Budget Activity 2040 / 5 | | | | R-1 Program Element (Number/Name) PE 0604798A / Brigade Analysis, Integration and Evaluation | | | | Project (Number/Name) DY7 / Army Systems Engineering, Architecture & Analysis | | | |
| C. Other Program Funding Summary (\$ in Millions) | | | | | | | | | | | |
| | <u>Line Item</u> | <u>FY 2017</u> | <u>FY 2018</u> | <u>FY 2019</u> <u>Base</u> | <u>FY 2019</u> <u>OCO</u> | <u>FY 2019</u> <u>Total</u> | <u>FY 2020</u> | <u>FY 2021</u> | <u>FY 2022</u> | <u>FY 2023</u> | <u>Cost To</u> <u>Complete</u> <u>Total Cost</u> |
| <u>Remarks</u> | | | | | | | | | | | |
| D. Acquisition Strategy | | | | | | | | | | | |
| This project does not have any requirement for direct procurement of hardware or software. | | | | | | | | | | | |
| E. Performance Metrics | | | | | | | | | | | |
| N/A | | | | | | | | | | | |

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| Exhibit R-3, RDT&E Project Cost Analysis: PB 2019 Army | | | | | | | | | | | | Date: February 2018 | | | |
|--|------------------------|--------------------------------|-------------|---------|------------|--|------------|--------------|------------|---|------------|---------------------|------------------|------------|--------------------------|
| Appropriation/Budget Activity 2040 / 5 | | | | | | R-1 Program Element (Number/Name) PE 0604798A / <i>Brigade Analysis, Integration and Evaluation</i> | | | | Project (Number/Name) DY7 / <i>Army Systems Engineering, Architecture & Analysis</i> | | | | | |
| Product Development (\$ in Millions) | | | | FY 2017 | | FY 2018 | | FY 2019 Base | | FY 2019 OCO | | FY 2019 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 |
| Army System of Systems Engineering and Analysis | TBD | TBD : Various | 31.574 | 13.029 | Nov 2016 | - | | - | | - | | - | 0.000 | 44.603 | - |
| Common Operating Environment (COE) | TBD | TBD : Various | 9.815 | 3.154 | Nov 2016 | - | | - | | - | | - | 0.000 | 12.969 | - |
| Cyber | TBD | TBD : Various | 2.678 | 2.086 | Nov 2016 | - | | - | | - | | - | 0.000 | 4.764 | - |
| Army System of System Engineering and Analysis Core Labor | Allot | SoSE&I : Various | - | - | | 4.479 | Nov 2017 | 4.622 | Nov 2018 | - | | 4.622 | Continuing | Continuing | - |
| Army System of System Engineering and Analysis Matrix Labor | MIPR | CERDEC : Various | - | - | | 0.982 | Nov 2017 | 1.013 | Nov 2018 | - | | 1.013 | Continuing | Continuing | - |
| Army System of System Engineering and Analysis SETA Labor | C/CPFF | TBD : Various | - | - | | 1.091 | Nov 2017 | 1.125 | Nov 2018 | - | | 1.125 | Continuing | Continuing | - |
| Army System of System Engineering and Analysis FFRDC Labor | FFRDC | MITRE : Various | - | - | | 3.956 | Nov 2017 | 4.081 | Nov 2018 | - | | 4.081 | Continuing | Continuing | - |
| Common Operating Environment (COE) Core Labor | Allot | SoSE&I : Various | - | - | | 1.161 | Nov 2017 | 1.198 | Nov 2018 | - | | 1.198 | Continuing | Continuing | - |
| Cyber Core Labor | Allot | SoSE&I : Various | - | - | | 2.076 | Nov 2017 | 2.141 | Nov 2018 | - | | 2.141 | Continuing | Continuing | - |
| Cyber Matrix Labor | MIPR | CERDEC : Various | - | - | | 0.300 | Nov 2017 | 0.309 | Nov 2018 | - | | 0.309 | Continuing | Continuing | - |
| Cyber SETA Labor | C/CPFF | TBD : Various | - | - | | 0.248 | Nov 2017 | 0.256 | Nov 2018 | - | | 0.256 | Continuing | Continuing | - |
| Cyber FFRDC Labor | FFRDC | MITRE : Various | - | - | | 0.633 | Nov 2017 | 0.653 | Nov 2018 | - | | 0.653 | Continuing | Continuing | - |
| Subtotal | | | 44.067 | 18.269 | | 14.926 | | 15.398 | | - | | 15.398 | Continuing | Continuing | N/A |
| Remarks | | | | | | | | | | | | | | | |
| Note: 1 | | | | | | | | | | | | | | | |
| - Program Activities performed at Aberdeen Proving Ground (MD), Taylor Bldg, (Crystal City, VA), Pentagon, (Washington DC), TACOM (Warren, MI) | | | | | | | | | | | | | | | |
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| Exhibit R-3, RDT&E Project Cost Analysis: PB 2019 Army | | | | | | | | | | | | Date: February 2018 | | | |
| Appropriation/Budget Activity 2040 / 5 | | | | | | R-1 Program Element (Number/Name) PE 0604798A / <i>Brigade Analysis, Integration and Evaluation</i> | | | | Project (Number/Name) DY7 / <i>Army Systems Engineering, Architecture & Analysis</i> | | | | | |
| Support (\$ in Millions) | | | | FY 2017 | | FY 2018 | | FY 2019 Base | | FY 2019 OCO | | FY 2019 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 |
| Facilities and IT Support | TBD | Various: Note: 1 : TBD | 3.387 | 0.533 | Nov 2016 | 0.582 | Nov 2017 | 0.212 | Nov 2018 | - | | 0.212 | 0.000 | 4.714 | - |
| Subtotal | | | 3.387 | 0.533 | | 0.582 | | 0.212 | | - | | 0.212 | 0.000 | 4.714 | N/A |
| Remarks | | | | | | | | | | | | | | | |
| Note:1 - Program Activities performed at Aberdeen Proving Ground (MD), Taylor Bldg, (Crystal City, VA), Pentagon, (Washington DC), TACOM (Warren, MI) | | | | | | | | | | | | | | | |
| | | | Prior Years | FY 2017 | | FY 2018 | | FY 2019 Base | | FY 2019 OCO | | FY 2019 Total | Cost To Complete | Total Cost | Target Value of Contract |
| Project Cost Totals | | | 47.454 | 18.802 | | 15.508 | | 15.610 | | - | | 15.610 | Continuing | Continuing | N/A |
| Remarks | | | | | | | | | | | | | | | |

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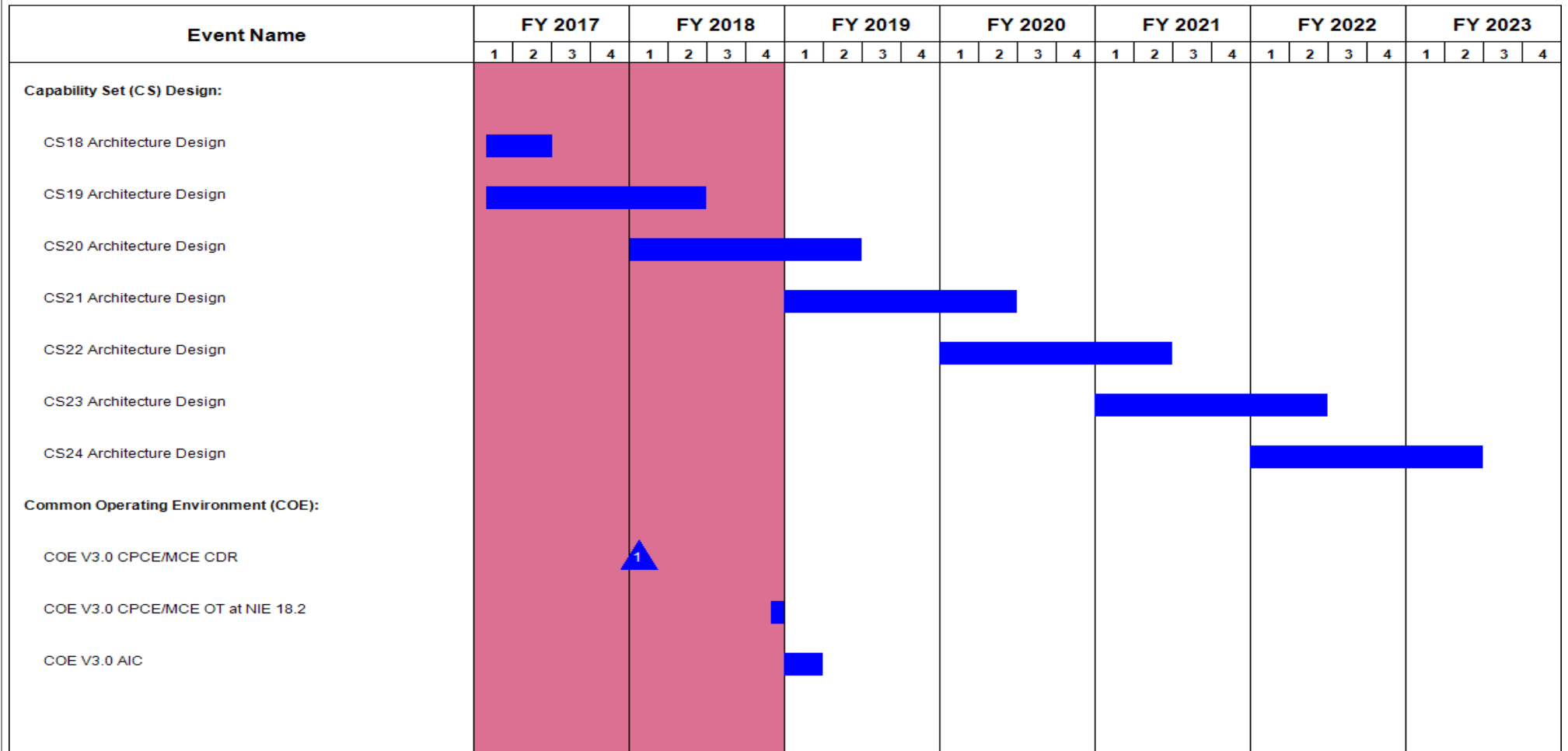
Exhibit R-4, RDT&E Schedule Profile: PB 2019 Army

Date: February 2018

Appropriation/Budget Activity
2040 / 5

R-1 Program Element (Number/Name)
PE 0604798A / *Brigade Analysis, Integration and Evaluation*

Project (Number/Name)
DY7 / *Army Systems Engineering, Architecture & Analysis*



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| Exhibit R-4A, RDT&E Schedule Details: PB 2019 Army | | | Date: February 2018 |
| Appropriation/Budget Activity 2040 / 5 | R-1 Program Element (Number/Name) PE 0604798A / <i>Brigade Analysis, Integration and Evaluation</i> | Project (Number/Name) DY7 / <i>Army Systems Engineering, Architecture & Analysis</i> | |

Schedule Details

| Events | Start | | End | |
|-------------------------------------|---------|------|---------|------|
| | Quarter | Year | Quarter | Year |
| Capability Set (CS) Design: | 1 | 2018 | 4 | 2019 |
| CS18 Architecture Design | 1 | 2016 | 2 | 2017 |
| CS19 Architecture Design | 1 | 2017 | 2 | 2018 |
| CS20 Architecture Design | 1 | 2018 | 2 | 2019 |
| CS21 Architecture Design | 1 | 2019 | 2 | 2020 |
| CS22 Architecture Design | 1 | 2020 | 2 | 2021 |
| CS23 Architecture Design | 1 | 2021 | 2 | 2022 |
| CS24 Architecture Design | 1 | 2022 | 2 | 2023 |
| Common Operating Environment (COE): | 1 | 2018 | 4 | 2019 |
| COE V3.0 CPCE/MCE CDR | 1 | 2018 | 1 | 2018 |
| COE V3.0 CPCE/MCE OT at NIE 18.2 | 4 | 2018 | 4 | 2018 |
| COE V3.0 AIC | 1 | 2019 | 1 | 2019 |

Note

Capability Set (CS)

Common Operating Environment (COE):

Army Interoperability Certification (AIC), Command Post Computing Environment (CPCE), Critical Design Review (CDR), Mounted Computing Environment (MCE), Network Integration Evaluation (NIE), Operational Test (OT)

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| Exhibit R-2A, RDT&E Project Justification: PB 2019 Army | | | | | | | | | | Date: February 2018 | | |
| Appropriation/Budget Activity 2040 / 5 | | | | | R-1 Program Element (Number/Name) PE 0604798A / Brigade Analysis, Integration and Evaluation | | | | Project (Number/Name) DZ6 / Army Integration Management & Coordination | | | |
| COST (\$ in Millions) | Prior Years | FY 2017 | FY 2018 | FY 2019 Base | FY 2019 OCO | FY 2019 Total | FY 2020 | FY 2021 | FY 2022 | FY 2023 | Cost To Complete | Total Cost |
| DZ6: Army Integration Management & Coordination | - | 8.915 | 6.775 | 6.753 | - | 6.753 | 6.889 | 6.987 | 7.132 | 7.550 | 0.000 | 51.001 |
| Quantity of RDT&E Articles | - | - | - | - | - | - | - | - | - | - | | |
| A. Mission Description and Budget Item Justification | | | | | | | | | | | | |
| This project funds the "shared" resources that support the technical and management (i.e. headquarters, resource management, acquisition, human resources, and operations) aspects of the Army's Integrated Evaluations, System of Systems Engineering and Analysis efforts, coordination of Capability Set (CS) Fieldings, and the Army Rapid Capabilities Office (RCO). Effectively utilizing "shared" resources reduces overall cost to the program. The personnel funded by this project provide staff functions for the Brigade Analysis, Integration and Evaluation program missions and the RCO. | | | | | | | | | | | | |
| B. Accomplishments/Planned Programs (\$ in Millions) | | | | | | | | | FY 2017 | FY 2018 | FY 2019 | |
| Title: Program Management and Integration | | | | | | | | | 8.107 | 6.062 | 6.209 | |
| Description: This effort funds for all "shared" resources that supports SoSE&I and the Army Rapid Capabilities Office (RCO). | | | | | | | | | | | | |
| FY 2018 Plans: This effort includes program, business, operations, and personnel management support. It includes the following types of activities: Program management, contracting, financial management, cost analysis, personnel management, operations, security management, information management, facilities and infrastructure management, Pentagon liaison, and knowledge management. It also includes program oversight for Program Manager, Position, Navigation, and Timing (PNT). | | | | | | | | | | | | |
| FY 2019 Plans: This effort includes program, business, operations, and personnel management support. It includes the following types of activities: Program management, contracting, financial management, cost analysis, personnel management, operations, security management, information management, facilities, and infrastructure management. It also includes program oversight for Program Manager, Position, Navigation, and Timing (PNT). | | | | | | | | | | | | |
| FY 2018 to FY 2019 Increase/Decrease Statement: Increases in Personnel Costs (COLA & Adjustments) | | | | | | | | | | | | |
| Title: Facilities and IT Support | | | | | | | | | 0.808 | 0.713 | 0.544 | |
| Description: Provides funding for infrastructure/facilities and IT support. | | | | | | | | | | | | |
| FY 2018 Plans: | | | | | | | | | | | | |

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| Exhibit R-2A, RDT&E Project Justification: PB 2019 Army | | | | | | | Date: February 2018 | | | | | |
| Appropriation/Budget Activity 2040 / 5 | | | | R-1 Program Element (Number/Name) PE 0604798A / <i>Brigade Analysis, Integration and Evaluation</i> | | | | Project (Number/Name) DZ6 / <i>Army Integration Management & Coordination</i> | | | | |
| B. Accomplishments/Planned Programs (\$ in Millions) | | | | | | | | | | FY 2017 | FY 2018 | FY 2019 |
| Provides funding for infrastructure / facilities, and IT support from Network connectivity to purchasing/leasing hardware, software, computers, communications equipment and services. | | | | | | | | | | | | |
| FY 2019 Plans: Provides funding for infrastructure / facilities, and IT support from Network connectivity to purchasing/leasing hardware, software, computers, communications equipment and services. | | | | | | | | | | | | |
| FY 2018 to FY 2019 Increase/Decrease Statement: Decreases in infrastructure costs. | | | | | | | | | | | | |
| Accomplishments/Planned Programs Subtotals | | | | | | | | | | 8.915 | 6.775 | 6.753 |
| C. Other Program Funding Summary (\$ in Millions) | | | | | | | | | | | | |
| <u>Line Item</u> | <u>FY 2017</u> | <u>FY 2018</u> | <u>FY 2019 Base</u> | <u>FY 2019 OCO</u> | <u>FY 2019 Total</u> | <u>FY 2020</u> | <u>FY 2021</u> | <u>FY 2022</u> | <u>FY 2023</u> | <u>Cost To Complete</u> | <u>Total Cost</u> | |
| • DY3: <i>NIE Test & Evaluation</i> | 41.885 | 58.395 | 22.683 | - | 22.683 | 23.530 | 23.677 | 23.541 | 23.508 | Continuing | Continuing | |
| • DY5: <i>Production/Field Coordination for Capability Sets</i> | 4.660 | 4.261 | 4.242 | - | 4.242 | 4.301 | 4.391 | 4.369 | 4.462 | Continuing | Continuing | |
| • DY7: <i>Army Systems Engineering, Architecture & Analysis</i> | 18.802 | 15.508 | 15.610 | - | 15.610 | 24.377 | 24.760 | 25.449 | 25.939 | Continuing | Continuing | |
| • FG7: <i>Emerging Technology Initiatives</i> | 27.665 | 60.421 | 0.000 | - | 0.000 | - | - | - | - | Continuing | Continuing | |
| Remarks | | | | | | | | | | | | |
| D. Acquisition Strategy This project includes the purchase of IT hardware, software and service support; general office and operational supplies. | | | | | | | | | | | | |
| E. Performance Metrics N/A | | | | | | | | | | | | |

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| Exhibit R-3, RDT&E Project Cost Analysis: PB 2019 Army | | | | | | | | | | | | | Date: February 2018 | | |
| Appropriation/Budget Activity 2040 / 5 | | | | | | R-1 Program Element (Number/Name) PE 0604798A / <i>Brigade Analysis, Integration and Evaluation</i> | | | | Project (Number/Name) DZ6 / <i>Army Integration Management & Coordination</i> | | | | | |
| Product Development (\$ in Millions) | | | | FY 2017 | | FY 2018 | | FY 2019 Base | | FY 2019 OCO | | FY 2019 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 |
| SoSE&I Program Management and Integration | TBD | Various Note: 1 : TBD | 20.631 | 8.107 | Nov 2016 | 6.062 | Nov 2017 | 6.209 | Nov 2018 | - | | 6.209 | Continuing | Continuing | Continuing |
| Subtotal | | | 20.631 | 8.107 | | 6.062 | | 6.209 | | - | | 6.209 | Continuing | Continuing | N/A |
| Remarks Note: 1 - Program Activities performed at Aberdeen Proving Ground (MD), TACOM (Warren MI), Taylor Bldg, (Crystal City, VA), Pentagon, (Washington DC). | | | | | | | | | | | | | | | |
| Support (\$ in Millions) | | | | FY 2017 | | FY 2018 | | FY 2019 Base | | FY 2019 OCO | | FY 2019 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 |
| Facilities and IT Support | TBD | Various Note: 1 : TBD | 2.999 | 0.808 | Nov 2016 | 0.713 | Nov 2017 | 0.544 | Nov 2018 | - | | 0.544 | Continuing | Continuing | Continuing |
| Subtotal | | | 2.999 | 0.808 | | 0.713 | | 0.544 | | - | | 0.544 | Continuing | Continuing | N/A |
| Remarks Note:1 - Program Activities performed at Aberdeen Proving Ground (MD), TACOM (Warren MI), Taylor Bldg, (Crystal City, VA), Pentagon, (Washington DC), FT Bliss (TX), White Sands Missile Range (NM). | | | | | | | | | | | | | | | |
| | | | Prior Years | FY 2017 | | FY 2018 | | FY 2019 Base | | FY 2019 OCO | | FY 2019 Total | Cost To Complete | Total Cost | Target Value of Contract |
| Project Cost Totals | | | 23.630 | 8.915 | | 6.775 | | 6.753 | | - | | 6.753 | Continuing | Continuing | N/A |
| Remarks | | | | | | | | | | | | | | | |

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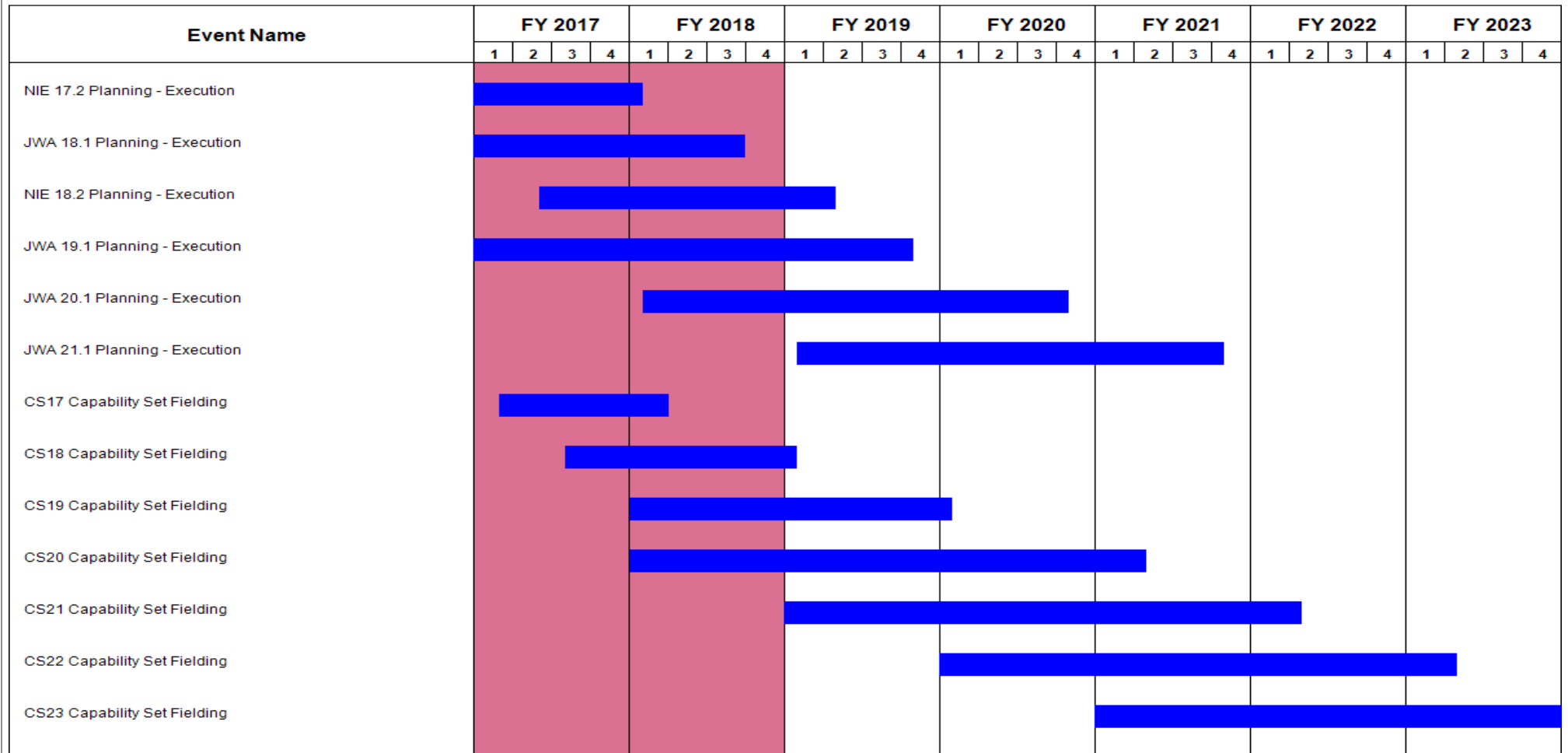
Exhibit R-4, RDT&E Schedule Profile: PB 2019 Army

Date: February 2018

Appropriation/Budget Activity
2040 / 5

R-1 Program Element (Number/Name)
PE 0604798A / *Brigade Analysis, Integration and Evaluation*

Project (Number/Name)
DZ6 / *Army Integration Management & Coordination*



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| Exhibit R-4, RDT&E Schedule Profile: PB 2019 Army | | | | | | | | | | | | | | | | Date: February 2018 | | | | | | | | | | | | | | | | | | | | | |
| Appropriation/Budget Activity 2040 / 5 | | | | | | | | | | R-1 Program Element (Number/Name) PE 0604798A / Brigade Analysis, Integration and Evaluation | | | | | | | | | | Project (Number/Name) DZ6 / Army Integration Management & Coordination | | | | | | | | | | | | | | | | | |
| Event Name | | | | | | | | | | FY 2017 | | | | FY 2018 | | | | FY 2019 | | | | FY 2020 | | | | FY 2021 | | | | FY 2022 | | | | FY 2023 | | | |
| | | | | | | | | | | 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 |
| CS24 Capability Set Fielding | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| Exhibit R-4A, RDT&E Schedule Details: PB 2019 Army | | | Date: February 2018 |
| Appropriation/Budget Activity 2040 / 5 | R-1 Program Element (Number/Name) PE 0604798A / <i>Brigade Analysis, Integration and Evaluation</i> | Project (Number/Name) DZ6 / <i>Army Integration Management & Coordination</i> | |

Schedule Details

| Events | Start | | End | |
|-------------------------------|----------------|-------------|----------------|-------------|
| | Quarter | Year | Quarter | Year |
| NIE 17.2 Planning - Execution | 3 | 2016 | 1 | 2018 |
| JWA 18.1 Planning - Execution | 3 | 2016 | 3 | 2018 |
| NIE 18.2 Planning - Execution | 2 | 2017 | 2 | 2019 |
| JWA 19.1 Planning - Execution | 3 | 2016 | 4 | 2019 |
| JWA 20.1 Planning - Execution | 1 | 2018 | 4 | 2020 |
| JWA 21.1 Planning - Execution | 1 | 2019 | 4 | 2021 |
| CS17 Capability Set Fielding | 1 | 2015 | 1 | 2018 |
| CS18 Capability Set Fielding | 3 | 2017 | 1 | 2019 |
| CS19 Capability Set Fielding | 1 | 2018 | 1 | 2020 |
| CS20 Capability Set Fielding | 1 | 2018 | 2 | 2021 |
| CS21 Capability Set Fielding | 1 | 2019 | 2 | 2022 |
| CS22 Capability Set Fielding | 1 | 2020 | 2 | 2023 |
| CS23 Capability Set Fielding | 1 | 2021 | 2 | 2024 |
| CS24 Capability Set Fielding | 1 | 2022 | 2 | 2025 |

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| Exhibit R-2A, RDT&E Project Justification: PB 2019 Army | | | | | | | | | | Date: February 2018 | | |
|---|-------------|---------|---------|--------------|--|---------------|---------|---------|---|---------------------|------------------|------------|
| Appropriation/Budget Activity 2040 / 5 | | | | | R-1 Program Element (Number/Name) PE 0604798A / <i>Brigade Analysis, Integration and Evaluation</i> | | | | Project (Number/Name) FG7 / <i>Emerging Technology Initiatives</i> | | | |
| COST (\$ in Millions) | Prior Years | FY 2017 | FY 2018 | FY 2019 Base | FY 2019 OCO | FY 2019 Total | FY 2020 | FY 2021 | FY 2022 | FY 2023 | Cost To Complete | Total Cost |
| FG7: <i>Emerging Technology Initiatives</i> | - | 27.665 | 60.421 | 0.000 | - | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 88.086 |
| Quantity of RDT&E Articles | - | - | - | - | - | - | - | - | - | - | | |

Note

Equipment mix and configuration may change based on changes in operational environment and circumstances.

*Project FG7 Emerging Technology Initiatives was created in support of the Army Rapid Capabilities Office (RCO). This project was realigned to PE0605054A Emerging Technologies Initiatives in FY2019 for greater transparency of the Army RCO efforts.

A. Mission Description and Budget Item Justification

This Project funds the prototyping and demonstration of selected technology enabled capabilities to support advanced Soldier, ground, aviation, and Command, Control, Communications, Computers Intelligence & Reconnaissance (C4ISR) systems and equipment.

The Primary goal is to take technologies to Technology Readiness Level (TRL) 7 and 8 through a collaborative and accelerated acquisition process. Technologies will be demonstrated in relevant environments, performing tactical/operational scenarios. Efforts will focus on high-priority, threat-based projects with the intent to deliver an operationally effective capability within one to five years. Efforts will include accelerated material development and competitive prototyping based on anticipated and emerging threats and opportunities. This Project provides the Army an improved mechanism to effectively confront emerging threats and advance America's military dominance. Efforts include development, acquisition, assessment, maturation, and transition of prototype technologies to acquisition programs in Cyber; Electronic Warfare (EW); Positioning, Navigation and Timing (PNT); Survivability and other high priority emerging threats and opportunities. Funds may also allow for acceleration of critical Program of Record capabilities to counter urgent and emerging threats. The Army Rapid Capabilities Office (RCO) assesses the provided capabilities to improve future solutions, to inform future Army capability requirements, and to potentially transition the capability to an Army acquisition program.

The Army RCO expedites the provisioning and fielding of critical combat materiel capabilities to the Warfighter to meet Combatant Commanders' needs. The Army RCO was established per Headquarters, Department of the Army, memo, SUBJECT: Establishment of the Army Rapid Capabilities Office, signed by the Secretary of the Army: Eric K. Fanning, dated 11 August 2016.

The RCO assesses Commercial-Off-The Shelf (COTS), Government Off-The- Shelf (GOTS), and Non-Developmental Item (NDI) (non-standard equipment) solutions for modification and/or integration to address changes in contested environments with enduring materiel solutions for forces deployed globally. Procure prototypes and evaluate solutions to be fielded and transition to an acquisition program for production and sustainment.

The RCO capabilities focus areas are:

- Cyber
- Electronic Warfare (EW)
- Position, Navigation and Timing (PNT)
- Survivability

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| Exhibit R-2A, RDT&E Project Justification: PB 2019 Army | | Date: February 2018 | | |
| Appropriation/Budget Activity 2040 / 5 | | R-1 Program Element (Number/Name) PE 0604798A / Brigade Analysis, Integration and Evaluation | | Project (Number/Name) FG7 / Emerging Technology Initiatives |
| Operational Needs Statements (ONS) Any other operational needs that become a priority as designated by the Army Board of Directors (BOD) | | | | |
| B. Accomplishments/Planned Programs (\$ in Millions) | | FY 2017 | FY 2018 | FY 2019 |
| Title: Maturation, Prototyping, Assessment, and Integration of Emerging and Essential Technologies | | 27.665 | 60.421 | - |
| Description: This effort selects technologies that show high promise for advancing and accelerating capabilities required under acquisition programs and develops and evaluates associated prototypes for accelerated identification, assessment, and transition to an acquisition program for production and fielding. It also demonstrates integrated technologies within a high fidelity and realistic operating environment and transitions them to a formal program of record on an accelerated basis. This effort also includes analysis, integration and evaluation of emerging capabilities on air and ground platforms to reduce risk and support technology insertions. | | | | |
| FY 2018 Plans: These funds will be used to identify, develop, procure, modify, and evaluate prototypes providing capability prioritized by the Board of Directors (BOD) in the areas of Cyber, EW, PNT, Survivability, and Other critical capability gaps. Funding supports infrastructure, procurement of prototypes, engineering and material for integration, field support representation, early acquisition documentation, system modification, and development and operational testing needed to transition a procurement ready solution to an acquisition program for execution. | | | | |
| Electronic Warfare Phase 1 Requirements (In support of USAREUR ONS ? 16-21509) - will continue integration and assessment that began in FY17 for Ground EW capability with enhanced and networked for Prophet, Versatile Radio Observation & Direction Finding (VROD) / Modular Adaptive Transmitter (VMAX) and Sabre Junction. | | | | |
| Electronic Warfare Phase 2 Requirements (In support of USAREUR ONS ? 16-21509) - will continue integration and assessment that began in FY17 of air EW capability. Funding will acquire long lead prototypes, conduct non-recurring integration engineering and risk reduction exercises, and enable further development of ground EW prototype capabilities. | | | | |
| Positioning, Navigation and Timing Phase 1 Requirements (In support of USAREUR ONS ? 16-21509) - will continue integration and assessment of the DAGR Distributed Device Enhancement (D3E) w/Anti-Jam (AJ) Antenna and Global Navigation Satellite System (GNSS) Sensors to participate in the Joint Warfighting Assessment (JWA) 18.1. Non-recurring engineering and integration of the D3E/AJ onto the Bradley, Abrams, Stryker and Paladin platforms is required in FY18 to obtain a Capabilities and Limitations (C&L) report to enable Urgent Materiel Release (UMR). | | | | |
| FY 2018 to FY 2019 Increase/Decrease Statement: | | | | |

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|--|----------------|----------------|-------------------------|---|--------------------------|----------------|----------------|--|----------------|-----------------------------|-------------------|----------------|
| Exhibit R-2A, RDT&E Project Justification: PB 2019 Army | | | | | | | | | | Date: February 2018 | | |
| Appropriation/Budget Activity 2040 / 5 | | | | R-1 Program Element (Number/Name) PE 0604798A / <i>Brigade Analysis, Integration and Evaluation</i> | | | | Project (Number/Name) FG7 / <i>Emerging Technology Initiatives</i> | | | | |
| B. Accomplishments/Planned Programs (\$ in Millions) | | | | | | | | | | FY 2017 | FY 2018 | FY 2019 |
| *Project FG7 Emerging Technology Initiatives was created in support of the Army Rapid Capabilities Office (RCO). This project was realigned to PE0605054A Emerging Technologies Initiatives in FY2019 for greater transparency of the Army RCO efforts. | | | | | | | | | | | | |
| Accomplishments/Planned Programs Subtotals | | | | | | | | | | 27.665 | 60.421 | - |
| C. Other Program Funding Summary (\$ in Millions) | | | | | | | | | | | | |
| Line Item | FY 2017 | FY 2018 | FY 2019 Base | FY 2019 OCO | FY 2019 Total | FY 2020 | FY 2021 | FY 2022 | FY 2023 | Cost To Complete | Total Cost | |
| • DY3: <i>NIE Test & Evaluation</i> | 41.885 | 58.395 | 22.683 | - | 22.683 | 23.530 | 23.677 | 23.541 | 23.508 | Continuing | Continuing | |
| • DY5: <i>Production/Field Coordination for Capability Sets</i> | 4.660 | 4.261 | 4.242 | - | 4.242 | 4.301 | 4.391 | 4.369 | 4.462 | Continuing | Continuing | |
| • DY7: <i>Army Systems Engineering, Architecture & Analysis</i> | 18.802 | 15.508 | 15.610 | - | 15.610 | 24.377 | 24.760 | 25.449 | 25.939 | Continuing | Continuing | |
| • DZ6: <i>Army Integration Management & Coordination</i> | 8.915 | 6.775 | 6.753 | - | 6.753 | 6.889 | 6.987 | 7.132 | 7.550 | Continuing | Continuing | |
| Remarks | | | | | | | | | | | | |
| D. Acquisition Strategy | | | | | | | | | | | | |
| The Army RCO capitalizes on current and emerging technologies to provide rapid solutions to address emerging threats and high impact capability opportunities of U.S. Army Forces deployed globally. This is accomplished in one of two ways: 1) adapting COTS/GOTS/NDI equipment to meet operational needs and 2) developing emerging deployable capability through research and development organizations, academia, and industry. The RCO uses streamlined acquisition methods, processes and techniques to rapidly acquire capability; these methods vary by project. The Rapid Capabilities Office will have a dedicated contracting staff, with the flexibility to use both traditional and non-traditional contracting approaches. To reach non-traditional vendors, RCO will use non-standard contracting methods, such as Other Transaction Authority instruments. Where practicable, prototypes will be acquired using competitive procedures. Projects will be transitioned to an approved acquisition program for production and sustainment. Operational assessments will be conducted to provide feedback in support of Army requirements generation, prototype maturation, and future capability development. | | | | | | | | | | | | |
| E. Performance Metrics | | | | | | | | | | | | |
| N/A | | | | | | | | | | | | |

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|---|-----------------------------------|---|--------------------|----------------|-------------------|---|-------------------|---------------------|-------------------|--------------------|-------------------|--|-------------------------|-------------------|---------------------------------|
| Exhibit R-3, RDT&E Project Cost Analysis: PB 2019 Army | | | | | | | | | | | | Date: February 2018 | | | |
| Appropriation/Budget Activity 2040 / 5 | | | | | | R-1 Program Element (Number/Name) PE 0604798A / <i>Brigade Analysis, Integration and Evaluation</i> | | | | | | Project (Number/Name) FG7 / <i>Emerging Technology Initiatives</i> | | | |
| Management Services (\$ in Millions) | | | | FY 2017 | | FY 2018 | | FY 2019 Base | | FY 2019 OCO | | FY 2019 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 |
| EW Program Management | Various | PM Electronic Warfare & Cyber : APG, MD | - | - | | 1.618 | | - | | - | | - | 0.000 | 1.618 | - |
| PNT Program Management | Various | PM PNT : Various | - | - | | 1.279 | | - | | - | | - | 0.000 | 1.279 | - |
| Subtotal | | | - | - | | 2.897 | | - | | - | | - | 0.000 | 2.897 | N/A |
| Product Development (\$ in Millions) | | | | FY 2017 | | FY 2018 | | FY 2019 Base | | FY 2019 OCO | | FY 2019 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 |
| Maturation, Prototyping, Assessment, and Integration of Emerging and Essential Technologies | C/TBD | TBD : TBD | - | 27.665 | Mar 2017 | 30.010 | | - | | - | | - | Continuing | Continuing | Continuing |
| EW VROD/VMAX Software Development | MIPR | I2WD : APG, MD | - | - | | 1.197 | | - | | - | | - | 0.000 | 1.197 | - |
| EW Air Risk Reduction | C/CPFF | General Atomics : Multiple | - | - | | 7.760 | | - | | - | | - | 0.000 | 7.760 | - |
| EW TORO Development | MIPR | Air Force : TBD | - | - | | 5.300 | | - | | - | | - | 0.000 | 5.300 | - |
| EW Sabre Fury Development | C/CPFF | SRC : Syracuse, NY | - | - | | 2.088 | | - | | - | | - | 0.000 | 2.088 | - |
| EW ISA Software Development | C/CPFF | MTEQ : APG, MD | - | - | | 0.914 | | - | | - | | - | 0.000 | 0.914 | - |
| EW EWPMT Development | C/CPFF | Raytheon : Ft. Wayne, IN | - | - | | 1.977 | | - | | - | | - | 0.000 | 1.977 | - |
| PNT D3E Integration | C/CPFF | GPS Source : Pueblo, CO | - | - | | 0.752 | | - | | - | | - | 0.000 | 0.752 | - |
| Subtotal | | | - | 27.665 | | 49.998 | | - | | - | | - | Continuing | Continuing | N/A |

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| Exhibit R-3, RDT&E Project Cost Analysis: PB 2019 Army | | | | | | | | | | | | Date: February 2018 | | | |
| Appropriation/Budget Activity 2040 / 5 | | | | | | R-1 Program Element (Number/Name) PE 0604798A / <i>Brigade Analysis, Integration and Evaluation</i> | | | | | | Project (Number/Name) FG7 / <i>Emerging Technology Initiatives</i> | | | |
| Support (\$ in Millions) | | | | FY 2017 | | FY 2018 | | FY 2019 Base | | FY 2019 OCO | | FY 2019 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 |
| EW VROD/VMAX Information Assurance | MIPR | I2WD : APG, MD | - | - | | 0.522 | | - | | - | | - | 0.000 | 0.522 | - |
| EW Prophet Safety Support | MIPR | CECOM : APG, MD | - | - | | 0.075 | | - | | - | | - | 0.000 | 0.075 | - |
| PNT Engineering Support | C/CPFF | CERDEC : APG, MD | - | - | | 1.178 | | - | | - | | - | 0.000 | 1.178 | - |
| Subtotal | | | - | - | | 1.775 | | - | | - | | - | 0.000 | 1.775 | N/A |
| Test and Evaluation (\$ in Millions) | | | | FY 2017 | | FY 2018 | | FY 2019 Base | | FY 2019 OCO | | FY 2019 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 |
| EW Sabre Fury Software Test and Information Assurance | MIPR | TBD : TBD | - | - | | 0.950 | | - | | - | | - | 0.000 | 0.950 | - |
| EW RIM Test Articles | C/IDIQ | Army Research Laboratory : APG, MD | - | - | | 2.450 | | - | | - | | - | 0.000 | 2.450 | - |
| EW EWPMT Test | C/CPFF | Raytheon : Ft. Wayne, IN | - | - | | 0.727 | | - | | - | | - | 0.000 | 0.727 | - |
| PNT Customer Test | MIPR | ATEC WSMR : WSMR, NM | - | - | | 0.897 | | - | | - | | - | 0.000 | 0.897 | - |
| PNT Pseudolite test | MIPR | ATEC WSMR : WSMR, NM | - | - | | 0.217 | | - | | - | | - | 0.000 | 0.217 | - |
| PNT JWA 18.1/19.1 | MIPR | ATEC : OCONUS | - | - | | 0.510 | | - | | - | | - | 0.000 | 0.510 | - |
| Subtotal | | | - | - | | 5.751 | | - | | - | | - | 0.000 | 5.751 | N/A |
| | | | Prior Years | FY 2017 | | FY 2018 | | FY 2019 Base | | FY 2019 OCO | | FY 2019 Total | Cost To Complete | Total Cost | Target Value of Contract |
| Project Cost Totals | | | - | 27.665 | | 60.421 | | - | | - | | - | Continuing | Continuing | N/A |
| Remarks | | | | | | | | | | | | | | | |

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| Exhibit R-4, RDT&E Schedule Profile: PB 2019 Army | | | Date: February 2018 | | |
| Appropriation/Budget Activity 2040 / 5 | | R-1 Program Element (Number/Name) PE 0604798A / <i>Brigade Analysis, Integration and Evaluation</i> | | Project (Number/Name) FG7 / <i>Emerging Technology Initiatives</i> | |

| Event Name | FY 2017 | | | | FY 2018 | | | | FY 2019 | | | | FY 2020 | | | | FY 2021 | | | | FY 2022 | | | | FY 2023 | | | |
|--|---------|---|---|---|---------|---|---|---|---------|---|---|---|---------|---|---|---|---------|---|---|---|---------|---|---|---|---------|---|---|---|
| | 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 |
| RCO EW Phase I Development | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| RCO EW Phase I Lab Based Risk Reduction | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| RCO EW Phase I NIE 17.2 NET | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| RCO EW Phase I NIE 17.2 VALEX | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| RCO EW Phase I NIE 17.2 EW Dry Run | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| RCO EW Saber Guardian 17 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| RCO EW Phase I NIE 17.2 EW Assessment | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| RCO EW Phase I YPG C&L Test | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| RCO EW Phase I Deployment | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| RCO EW Phase II Development | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| RCO PNT Sensor Development (fixed and mobile) | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| RCO PNT Test Planning | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| RCO PNT NRE and Integration on Stryker Platforms | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

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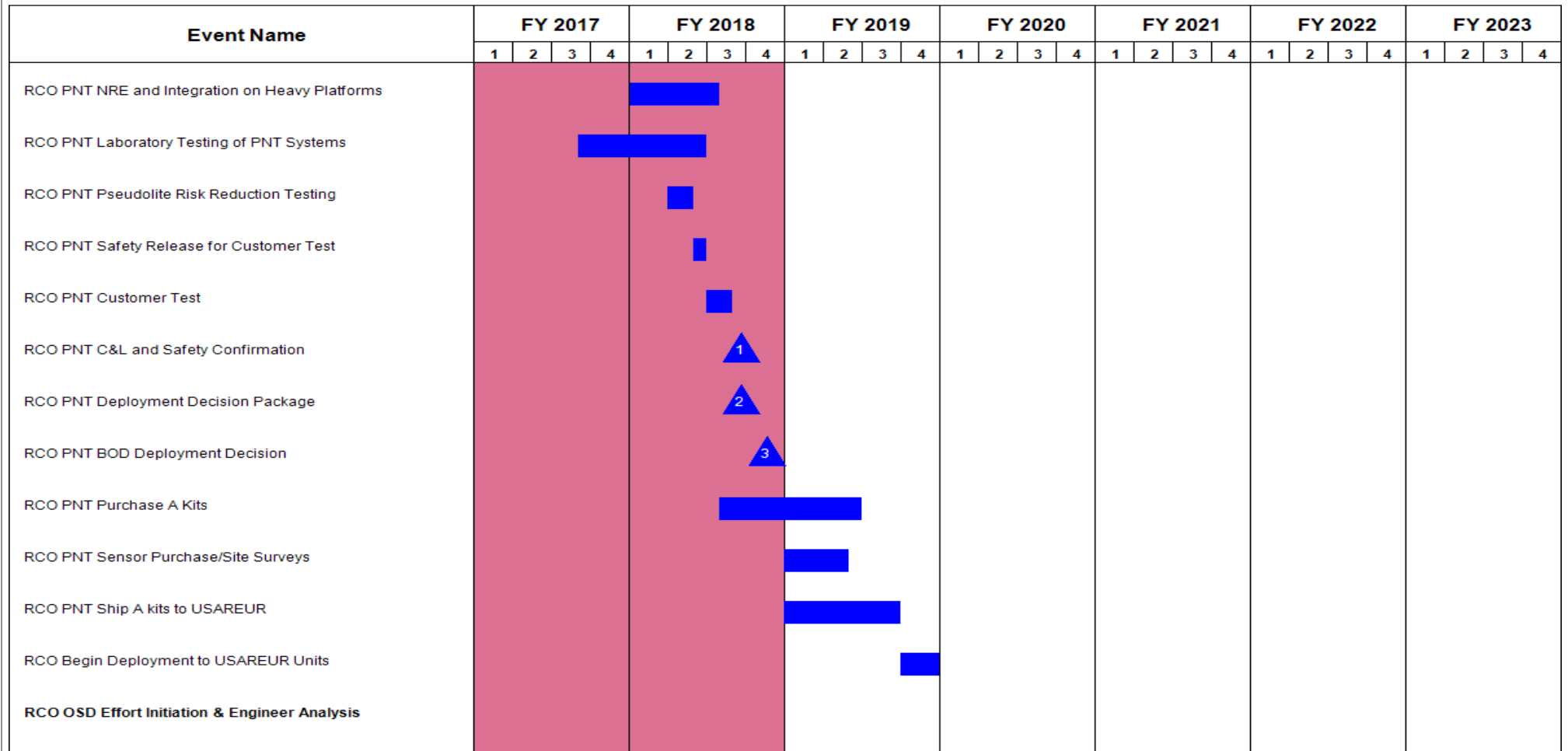
Exhibit R-4, RDT&E Schedule Profile: PB 2019 Army

Date: February 2018

Appropriation/Budget Activity
2040 / 5

R-1 Program Element (Number/Name)
PE 0604798A / *Brigade Analysis, Integration and Evaluation*

Project (Number/Name)
FG7 / *Emerging Technology Initiatives*



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Exhibit R-4, RDT&E Schedule Profile: PB 2019 Army

Date: February 2018

Appropriation/Budget Activity

2040 / 5

R-1 Program Element (Number/Name)

PE 0604798A / *Brigade Analysis, Integration and Evaluation*

Project (Number/Name)

FG7 / Emerging Technology Initiatives

| Event Name | FY 2017 | | | | FY 2018 | | | | FY 2019 | | | | FY 2020 | | | | FY 2021 | | | | FY 2022 | | | | FY 2023 | | | |
|-------------------------------------|---------|---|---|---|---------|---|---|---|---------|---|---|---|---------|---|---|---|---------|---|---|---|---------|---|---|---|---------|---|---|---|
| | 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 |
| RCO OSD Operational Assessment FY19 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| Exhibit R-4A, RDT&E Schedule Details: PB 2019 Army | | | Date: February 2018 |
| Appropriation/Budget Activity 2040 / 5 | R-1 Program Element (Number/Name) PE 0604798A / <i>Brigade Analysis, Integration and Evaluation</i> | Project (Number/Name) FG7 / <i>Emerging Technology Initiatives</i> | |

Schedule Details

| Events | Start | | End | |
|--|----------------|-------------|----------------|-------------|
| | Quarter | Year | Quarter | Year |
| RCO EW Phase I Development | 2 | 2017 | 4 | 2017 |
| RCO EW Phase I Lab Based Risk Reduction | 2 | 2017 | 3 | 2017 |
| RCO EW Phase I NIE 17.2 NET | 3 | 2017 | 3 | 2017 |
| RCO EW Phase I NIE 17.2 VALEX | 3 | 2017 | 3 | 2017 |
| RCO EW Phase I NIE 17.2 EW Dry Run | 4 | 2017 | 4 | 2017 |
| RCO EW Saber Guardian 17 | 4 | 2017 | 4 | 2017 |
| RCO EW Phase I NIE 17.2 EW Assessment | 4 | 2017 | 4 | 2017 |
| RCO EW Phase I YPG C&L Test | 4 | 2017 | 1 | 2018 |
| RCO EW Phase I Deployment | 2 | 2018 | 2 | 2018 |
| RCO EW Phase II Development | 1 | 2018 | 4 | 2018 |
| RCO PNT Sensor Development (fixed and mobile) | 4 | 2017 | 3 | 2018 |
| RCO PNT Test Planning | 4 | 2017 | 2 | 2018 |
| RCO PNT NRE and Integration on Stryker Platforms | 4 | 2017 | 3 | 2018 |
| RCO PNT NRE and Integration on Heavy Platforms | 1 | 2018 | 3 | 2018 |
| RCO PNT Laboratory Testing of PNT Systems | 3 | 2017 | 2 | 2018 |
| RCO PNT Pseudolite Risk Reduction Testing | 2 | 2018 | 2 | 2018 |
| RCO PNT Safety Release for Customer Test | 2 | 2018 | 2 | 2018 |
| RCO PNT Customer Test | 3 | 2018 | 3 | 2018 |
| RCO PNT C&L and Safety Confirmation | 3 | 2018 | 3 | 2018 |
| RCO PNT Deployment Decision Package | 3 | 2018 | 3 | 2018 |
| RCO PNT BOD Deployment Decision | 4 | 2018 | 4 | 2018 |
| RCO PNT Purchase A Kits | 3 | 2018 | 2 | 2019 |

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| Exhibit R-4A, RDT&E Schedule Details: PB 2019 Army | | | Date: February 2018 | |
| Appropriation/Budget Activity 2040 / 5 | R-1 Program Element (Number/Name) PE 0604798A / Brigade Analysis, Integration and Evaluation | | Project (Number/Name) FG7 / Emerging Technology Initiatives | |
| | Start | | End | |
| Events | Quarter | Year | Quarter | Year |
| RCO PNT Sensor Purchase/Site Surveys | 1 | 2019 | 2 | 2019 |
| RCO PNT Ship A kits to USAREUR | 1 | 2019 | 3 | 2019 |
| RCO Begin Deployment to USAREUR Units | 4 | 2019 | 4 | 2019 |
| RCO OSD Effort Initiation & Engineer Analysis | 1 | 2018 | 4 | 2018 |
| RCO OSD Operational Assessment FY19 | 1 | 2019 | 4 | 2019 |