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Exhibit R-2, RDT&E Budget Item Justification: FY 2018 Army **Date:** May 2017

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| Appropriation/Budget Activity 2040: Research, Development, Test & Evaluation, Army / BA 5: System Development & Demonstration (SDD) | R-1 Program Element (Number/Name) PE 0605042A / Tactical Network Radio Systems (Low-Tier) |
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| COST (\$ in Millions) | Prior Years | FY 2016 | FY 2017 | FY 2018 Base | FY 2018 OCO | FY 2018 Total | FY 2019 | FY 2020 | FY 2021 | FY 2022 | Cost To Complete | Total Cost |
|--------------------------|-------------|---------|---------|--------------|-------------|---------------|---------|---------|---------|---------|------------------|------------|
| Total Program Element | - | 0.000 | 18.824 | 20.076 | - | 20.076 | 7.651 | 10.178 | 22.006 | 22.328 | Continuing | Continuing |
| FA1: Manpack Radio | - | 0.000 | 14.819 | 10.039 | - | 10.039 | 3.826 | 5.088 | 11.003 | 11.164 | Continuing | Continuing |
| FA2: Rifleman Radio (RR) | - | 0.000 | 4.005 | 10.037 | - | 10.037 | 3.825 | 5.090 | 11.003 | 11.164 | Continuing | Continuing |

Note

In coordination with G8 and the Army Budget Office, HMS PE 0604280A was realigned under PE 0605042A in PB17. The HMS program will execute funding under two separate project codes for Manpack Radio (Project Code FA1) and Rifleman Radio (Project Code FA2) beginning in FY 2017.

A. Mission Description and Budget Item Justification

The Handheld, Manpack, and Small Form Fit (HMS) radio program is a materiel solution meeting requirements for Software Communications Architecture (SCA) compliant hardware system hosting SCA-compliant Government Purpose Rights software waveforms (applications). HMS is an Acquisition Category IC program that encompasses specific requirements to support the U.S. Army, Air Force, Navy, Marine Corps and Special Operations Command communications needs.

HMS provides voice and data communications to the tactical edge/most disadvantaged warfighter with an on-the-move, at-the-halt, and stationary Line of Sight (LOS) / Beyond Line of Sight (BLOS) capability for both dismounted personnel and platforms. HMS radio systems are software reprogrammable, networkable, multi-mode systems capable of simultaneous voice and data communications.

HMS encompasses the Handheld Radios (one-channel Rifleman Radio (RR) and two-channel Leader Radio (LR)), Manpack Radio (MP), and Small Form Fit (SFF) radios. HMS radios will provide voice and support for data services such as text, control graphics, imagery, video, and telemetry to Warfighters and tactical end user devices including handheld, embedded, and larger computing devices, as well as unmanned systems.

| B. Program Change Summary (\$ in Millions) | FY 2016 | FY 2017 | FY 2018 Base | FY 2018 OCO | FY 2018 Total |
|--------------------------------------------|---------|---------|--------------|-------------|---------------|
| Previous President's Budget | 0.000 | 18.824 | 5.417 | - | 5.417 |
| Current President's Budget | 0.000 | 18.824 | 20.076 | - | 20.076 |
| Total Adjustments | 0.000 | 0.000 | 14.659 | - | 14.659 |
| • Congressional General Reductions | - | - | | | |
| • Congressional Directed Reductions | - | - | | | |
| • Congressional Rescissions | - | - | | | |
| • Congressional Adds | - | - | | | |
| • Congressional Directed Transfers | - | - | | | |
| • Reprogrammings | - | - | | | |
| • SBIR/STTR Transfer | - | - | | | |
| • Adjustments to Budget Years | 0.000 | 0.000 | 14.659 | - | 14.659 |

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| Exhibit R-2, RDT&E Budget Item Justification: FY 2018 Army | | Date: May 2017 |
| Appropriation/Budget Activity 2040: Research, Development, Test & Evaluation, Army / BA 5: System Development & Demonstration (SDD) | R-1 Program Element (Number/Name) PE 0605042A / Tactical Network Radio Systems (Low-Tier) | |
| <p><u>Change Summary Explanation</u></p> <p>The FY 2018 RDTE funding increase of \$14.659M for HMS is driven by the increase in testing requirements for both radio products.</p> | | |

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| Exhibit R-2A, RDT&E Project Justification: FY 2018 Army | | | | | | | | | | Date: May 2017 | | |
| Appropriation/Budget Activity 2040 / 5 | | | | | R-1 Program Element (Number/Name) PE 0605042A / Tactical Network Radio Systems (Low-Tier) | | | | Project (Number/Name) FA1 / Manpack Radio | | | |
| COST (\$ in Millions) | Prior Years | FY 2016 | FY 2017 | FY 2018 Base | FY 2018 OCO | FY 2018 Total | FY 2019 | FY 2020 | FY 2021 | FY 2022 | Cost To Complete | Total Cost |
| FA1: Manpack Radio | - | 0.000 | 14.819 | 10.039 | - | 10.039 | 3.826 | 5.088 | 11.003 | 11.164 | Continuing | Continuing |
| Quantity of RDT&E Articles | - | - | - | - | - | - | - | - | - | - | | |
| Note | | | | | | | | | | | | |
| In coordination with G8 and the Army Budget Office, HMS PE 0604280A was realigned under PE 0605042A in PB17. The HMS program will execute funding under two separate project codes for Manpack Radio (Project Code FA1) and Rifleman Radio (Project Code FA2) beginning in FY 2017. | | | | | | | | | | | | |
| A. Mission Description and Budget Item Justification | | | | | | | | | | | | |
| The MP radio is a NSA certified Type 1 radio used for transmission of up to SECRET information. MP is capable of providing two simultaneous channels of secure voice and data communications using SINCGARS, SRW, and Demand Assigned Multiple Access Satellite Communication. Future operational capabilities include the Mobile User Objective System (MUOS) waveform. The MP provides range extension and connects soldiers in the lower tier network to the mid-tier network. It is interoperable with legacy waveforms and capable of route and retransmission and cross-banding. The Manpack provides networking waveforms connectivity, Networked LOS / BLOS voice and data communications. | | | | | | | | | | | | |
| The SFF-B is a two-channel embedded radio. It is a NSA certified Type 1 radio used for transmission of up to SECRET information. SFF-B was originally designed to meet Nett Warrior Radio requirements. It would be embedded into the Nett Warrior leader ensemble (platoon leader, platoon sergeant, squad leader, and team leader). The current focus for SFF-B is for use in Unmanned Aerial Vehicles (UAVs). | | | | | | | | | | | | |
| B. Accomplishments/Planned Programs (\$ in Millions) | | | | | | | | | FY 2016 | FY 2017 | FY 2018 | |
| Title: Program Management | | | | | | | | | - | 0.356 | 0.600 | |
| Description: Manpack's program management includes overall management of program execution, major events, reporting, funds execution, contract management, and logistical support. Includes participation in program planning and Integrated Product Team meetings. | | | | | | | | | | | | |
| FY 2017 Plans: | | | | | | | | | | | | |
| During this timeframe, will provide overall management and oversight to implement HMS acquisition strategy. Includes Core, Matrix, and Contractor support. | | | | | | | | | | | | |
| FY 2018 Plans: | | | | | | | | | | | | |
| During this timeframe, will provide overall management and oversight to implement HMS acquisition strategy. Includes Core, Matrix, and Contractor support. | | | | | | | | | | | | |
| Title: HMS Engineering/Technical Support | | | | | | | | | - | 1.142 | 0.700 | |

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| Exhibit R-2A, RDT&E Project Justification: FY 2018 Army | | | Date: May 2017 | | |
| Appropriation/Budget Activity 2040 / 5 | | R-1 Program Element (Number/Name) PE 0605042A / Tactical Network Radio Systems (Low-Tier) | | Project (Number/Name) FA1 / Manpack Radio | |
| B. Accomplishments/Planned Programs (\$ in Millions) | | | FY 2016 | FY 2017 | FY 2018 |
| Description: Overall technical analysis support to PdM HMS' Manpack products. | | | | | |
| FY 2017 Plans: Provide technical systems engineering support to evaluate technical alternatives and perform communication architecture analysis to identify alternatives to reduce cost, improve performance, and achieve tactical radio objectives. Technical test support for the planning and execution of laboratory and field test events, including support for testing of prototypes, Engineering Design Models (EDMs), commercial radio solutions, Developmental and Operational Test events, and data collection/reduction/analysis of tactical radio performance. | | | | | |
| FY 2018 Plans: Provide technical systems engineering support to evaluate technical alternatives and perform communication architecture analysis to identify alternatives to reduce cost, improve performance, and achieve tactical radio objectives. Technical test support for the planning and execution of laboratory and field test events, including support for testing of prototypes, Engineering Design Models (EDMs), commercial radio solutions, Developmental and Operational Test events, and data collection/reduction/analysis of tactical radio performance. | | | | | |
| Title: Test and Evaluation | | | - | 13.321 | 8.739 |
| Description: Manpack's Test and Evaluation focuses on the key technical and operational characteristics of the system: Radio Frequency performance, security, Reliability, Availability & Maintainability, and survivability requirements, in addition to operational environmental performance requirements as per the Capability Production Document. All radios awarded a contract will be required to go through the Qualification Test (QT) to qualify for a Customer Test (CT). Following CT there will be a Field Based Risk Reduction Test (FBRR) that will serve as risk reduction event prior to Operational Test (OT) to ensure the radio is operational at full capability and ready to be used by soldiers. The QT and CT will be executed by Electronic Proving Ground and will serve as risk reduction events prior to the OT as opposed to developmental test to support incremental system improvement. | | | | | |
| The QT will validate the manufacturer's ability to meet the minimum functional requirements identified in the Performance Requirements Document. Radios that successfully demonstrate key capabilities during QT will proceed to the CT. The CT will serve as a risk reduction event for FBRR as data from this event will be considered for manufacturer down-select and an initial buy decision. FBRR will serve as a risk reduction event for delayed thresholds and OT. | | | | | |
| The OT will include support from Army and DoD operational testers and will use communication scenarios based on the Operational Mode Summary / Mission Profile of the system(s) under test. The OT will be designed to validate that HMS products meets the users' needs in terms of effectiveness, suitability and survivability in an operationally realistic environment. Results from OT will facilitate the delivery orders for Full Rate Production. | | | | | |

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| Exhibit R-2A, RDT&E Project Justification: FY 2018 Army | | | | | | | | | Date: May 2017 | | |
| Appropriation/Budget Activity 2040 / 5 | | | | R-1 Program Element (Number/Name) PE 0605042A / Tactical Network Radio Systems (Low-Tier) | | | | Project (Number/Name) FA1 / Manpack Radio | | | |
| B. Accomplishments/Planned Programs (\$ in Millions) | | | | | | | | | FY 2016 | FY 2017 | FY 2018 |
| FY 2017 Plans: The FY 2017 funding is needed to conduct testing for the MP candidate products to demonstrate compliance with program requirements; assess effectiveness, suitability, and survivability; to obtain material release for FRP; engineering and technical support at test events; and to fully fund the testing requirements on the MP candidate radios as laid out in the HMS Acquisition Strategy approved May 2014. | | | | | | | | | | | |
| FY 2018 Plans: The FY 2018 funding is needed to conduct testing for the MP candidate products to demonstrate compliance with program requirements; assess effectiveness, suitability, and survivability; to obtain material release for FRP; engineering and technical support at test events; and to fully fund the testing requirements on the MP candidate radios as laid out in the HMS Acquisition Strategy approved May 2014. | | | | | | | | | | | |
| Accomplishments/Planned Programs Subtotals | | | | | | | | | - | 14.819 | 10.039 |
| C. Other Program Funding Summary (\$ in Millions) | | | | | | | | | | | |
| Line Item | FY 2016 | FY 2017 | FY 2018 Base | FY 2018 OCO | FY 2018 Total | FY 2019 | FY 2020 | FY 2021 | FY 2022 | Cost To Complete | Total Cost |
| • RDTE: 0654280A: DZ5 | 4.415 | - | - | - | - | - | - | - | - | 0.000 | 4.415 |
| • PE: 0605042A, FA-2: Rifleman Radio | - | 4.005 | 10.039 | - | 10.039 | 3.826 | 5.088 | 11.003 | 11.164 | Continuing | Continuing |
| • OPA: B90000, B90210: Rifleman Radio | 29.509 | - | - | - | - | - | - | - | - | 0.000 | 29.509 |
| • OPA: B90000, B90215: Manpack Radio | 25.131 | - | - | - | - | - | - | - | - | 0.000 | 25.131 |
| • OPA: B95004, B95006: Handheld Radio | - | 43.734 | 37.773 | - | 37.773 | 53.511 | 60.951 | 85.020 | 73.255 | Continuing | Continuing |
| • OPA: B95004, B95007: Manpack Radio | - | 229.911 | 317.578 | - | 317.578 | 305.005 | 338.962 | 317.760 | 401.571 | Continuing | Continuing |
| Remarks | | | | | | | | | | | |
| HMS RDTE funding for FY 2016 and prior is held under PE 0604280A Joint Tactical Radios. HMS Procurement funding for FY 2016 and prior is held under Standard Study Number (SSN) B90210 JTRS Cluster 5 (Handheld) and SSN B90215 JTRS (Manpack). Due to a request to provide more transparency into the program, HMS RDTE funding beginning in FY 2017 will move to PE 0605042A Tactical Network Radio Systems (Low-Tier): FA1 Manpack Radio and FA2 Rifleman Radio. HMS Procurement funding beginning in FY 2017 will move to SSN B95004 Handheld Manpack Small Form Fit: SSN B95006 Handheld and SSN B95007 Manpack. | | | | | | | | | | | |

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| Exhibit R-2A, RDT&E Project Justification: FY 2018 Army | | Date: May 2017 |
| Appropriation/Budget Activity 2040 / 5 | R-1 Program Element (Number/Name) PE 0605042A / <i>Tactical Network Radio Systems (Low-Tier)</i> | Project (Number/Name) FA1 / <i>Manpack Radio</i> |
| <p><u>D. Acquisition Strategy</u></p> <p>HMS is currently executing a May 2014 approved acquisition strategy to procure Non-Developmental Items (NDI). Utilizing a full and open competition strategy the Manpack (MP) base contract was awarded to all potential industry partners. The MP contract was awarded on 26 February 2016, and will procure NDI MP radios for use in a classified environment. The MP is capable of running the following waveforms: SRW, Single Channel Ground and Airborne Radio System (SINCGARS), Satellite Communications (SATCOM) - Army managed waveforms, and Mobile User Objective System (MUOS) - Navy managed waveform.</p> <p>The Army has awarded Firm Fixed-Price (FFP) Indefinite Delivery Indefinite Quantity (IDIQ) Contracts and will procure radios through a multiple step selection process:</p> <ul style="list-style-type: none"> a. Awarded FFP Contracts to all qualified vendors based on technical acceptability and demonstrations (26 February 2016) b. Awarded initial delivery orders based on Qualification Test results (19 December 2016) c. Award second delivery orders based on Customer Test results (4QFY17) d. Award FRP delivery orders based on Operational Test and best value trade off construct (3QFY19) <p><u>E. Performance Metrics</u></p> <p>N/A</p> | | |

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| Exhibit R-3, RDT&E Project Cost Analysis: FY 2018 Army | | | | | | | | | | | | | Date: May 2017 | | |
| Appropriation/Budget Activity 2040 / 5 | | | | | | R-1 Program Element (Number/Name) PE 0605042A / <i>Tactical Network Radio Systems (Low-Tier)</i> | | | | | Project (Number/Name) FA1 / <i>Manpack Radio</i> | | | | |
| Management Services (\$ in Millions) | | | | FY 2016 | | FY 2017 | | FY 2018 Base | | FY 2018 OCO | | FY 2018 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 |
| Project Management Office Support | TBD | PEO C3T, CECOM, PM TR Alliant : Various; APG, MD | 0.000 | - | | 0.356 | | 0.600 | | - | | 0.600 | 0.000 | 0.956 | 0.000 |
| Subtotal | | | 0.000 | - | | 0.356 | | 0.600 | | - | | 0.600 | 0.000 | 0.956 | 0.000 |
| Support (\$ in Millions) | | | | FY 2016 | | FY 2017 | | FY 2018 Base | | FY 2018 OCO | | FY 2018 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 |
| HMS Engineering/ Technical Support | TBD | PEO C3T, ARL, ESP, CECOM, CERDEC, LCMC : Various | 0.000 | - | | 1.142 | | 0.700 | | - | | 0.700 | 0.000 | 1.842 | 0.000 |
| Subtotal | | | 0.000 | - | | 1.142 | | 0.700 | | - | | 0.700 | 0.000 | 1.842 | 0.000 |
| Test and Evaluation (\$ in Millions) | | | | FY 2016 | | FY 2017 | | FY 2018 Base | | FY 2018 OCO | | FY 2018 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 |
| Follow on Delta Development & Testing | RO | EPG : Ft. Huachuca | 0.000 | - | | 2.447 | | - | | - | | - | 0.000 | 2.447 | 0.000 |
| Follow on Delta Development & Testing (2) | RO | OTC : TBD | 0.000 | - | | 10.874 | | 8.739 | | - | | 8.739 | 0.000 | 19.613 | 0.000 |
| Subtotal | | | 0.000 | - | | 13.321 | | 8.739 | | - | | 8.739 | 0.000 | 22.060 | 0.000 |
| | | | Prior Years | FY 2016 | | FY 2017 | | FY 2018 Base | | FY 2018 OCO | | FY 2018 Total | Cost To Complete | Total Cost | Target Value of Contract |
| Project Cost Totals | | | 0.000 | - | | 14.819 | | 10.039 | | - | | 10.039 | 0.000 | 24.858 | - |
| Remarks | | | | | | | | | | | | | | | |

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| Exhibit R-4, RDT&E Schedule Profile: FY 2018 Army | | | | | | | | | | | | | | | | Date: May 2017 | | | | | | | | | | | | | | | | |
|---------------------------------------------------|---------|---|---|---|---------|---|---|---|---------|---------------------------------------------------------|---|---|---------|---|---|----------------|---------|---|---|-----------------------|---------|---|---|---|---------|---|---|---|--|--|--|--|
| Appropriation/Budget Activity | | | | | | | | | | R-1 Program Element (Number/Name) | | | | | | | | | | Project (Number/Name) | | | | | | | | | | | | |
| 2040 / 5 | | | | | | | | | | PE 0605042A / Tactical Network Radio Systems (Low-Tier) | | | | | | | | | | FA1 / Manpack Radio | | | | | | | | | | | | |
| Event Name | FY 2016 | | | | FY 2017 | | | | FY 2018 | | | | FY 2019 | | | | FY 2020 | | | | FY 2021 | | | | FY 2022 | | | | | | | |
| | 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 | | | | |
| Manpack (MP) Customer Test (CT) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| MP Field Base Risk Reduction Test (FBRR) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| MP Log Demo | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| MP Operational Test (OT) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| (1) MP Full Rate Production (FRP) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| MP Performance Verification Test (PVT) (FY19) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| PVT (FY20) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| MP PVT (FY21) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| MP PVT (FY22) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

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| Exhibit R-4A, RDT&E Schedule Details: FY 2018 Army | | | Date: May 2017 |
| Appropriation/Budget Activity 2040 / 5 | R-1 Program Element (Number/Name) PE 0605042A / <i>Tactical Network Radio Systems (Low-Tier)</i> | Project (Number/Name) FA1 / <i>Manpack Radio</i> | |

Schedule Details

| Events | Start | | End | |
|-----------------------------------------------|----------------|-------------|----------------|-------------|
| | Quarter | Year | Quarter | Year |
| Manpack (MP) Customer Test (CT) | 2 | 2017 | 4 | 2017 |
| MP Field Base Risk Reduction Test (FBRR) | 1 | 2018 | 2 | 2018 |
| MP Log Demo | 3 | 2018 | 3 | 2018 |
| MP Operational Test (OT) | 4 | 2018 | 2 | 2019 |
| MP Full Rate Production (FRP) | 3 | 2019 | 3 | 2019 |
| MP Performance Verification Test (PVT) (FY19) | 4 | 2019 | 4 | 2019 |
| PVT (FY20) | 4 | 2020 | 4 | 2020 |
| MP PVT (FY21) | 3 | 2021 | 4 | 2021 |
| MP PVT (FY22) | 3 | 2022 | 3 | 2022 |

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| Exhibit R-2A, RDT&E Project Justification: FY 2018 Army | | | | | | | | | | Date: May 2017 | | |
| Appropriation/Budget Activity 2040 / 5 | | | | | R-1 Program Element (Number/Name) PE 0605042A / Tactical Network Radio Systems (Low-Tier) | | | | Project (Number/Name) FA2 / Rifleman Radio (RR) | | | |
| COST (\$ in Millions) | Prior Years | FY 2016 | FY 2017 | FY 2018 Base | FY 2018 OCO | FY 2018 Total | FY 2019 | FY 2020 | FY 2021 | FY 2022 | Cost To Complete | Total Cost |
| FA2: Rifleman Radio (RR) | - | 0.000 | 4.005 | 10.037 | - | 10.037 | 3.825 | 5.090 | 11.003 | 11.164 | Continuing | Continuing |
| Quantity of RDT&E Articles | - | - | - | - | - | - | - | - | - | - | | |
| Note | | | | | | | | | | | | |
| In coordination with G8 and the Army Budget Office, HMS PE 0604280A was realigned under PE 0605042A in PB17. The HMS program will execute funding under two separate project codes for Manpack Radio (Project Code FA1) and Rifleman Radio (Project Code FA2) beginning in FY 2017. | | | | | | | | | | | | |
| A. Mission Description and Budget Item Justification | | | | | | | | | | | | |
| HMS is structured as a single program of record. The HMS Handheld Radios encompass the one-channel Rifleman Radio (RR) and two-channel Leader Radio (LR). The RR is a handheld radio that connects soldiers at the lowest echelon of the Army network. It is a National Security Agency (NSA) certified Type 1 radio used for transmission of up to SECRET information. The RR provides one-channel secure voice and data communications using Soldier Radio Waveform (SRW). It is the primary squad level communication system. The LR is a Multiband two-channel handheld radio to be used at the Team, Squad, and Platoon level. The LR will simultaneously support Single Channel Ground and Airborne Radio System (SINCGARS) voice interoperability and SRW data and voice communications in one radio with both handheld and mounted configurations. | | | | | | | | | | | | |
| On 13 September 2016 the Army Acquisition Executive (AAE) determined to decrease the Basis of Issue (BOI) for the single channel Rifleman Radio (RR), increase the BOI for the two channel Leader Radio (LR) and move forward with acquisition activities for the two channel LR. Single channel RR procurement is being deferred. | | | | | | | | | | | | |
| B. Accomplishments/Planned Programs (\$ in Millions) | | | | | | | | | | FY 2016 | FY 2017 | FY 2018 |
| Title: Program Management | | | | | | | | | | - | 0.518 | 1.674 |
| Description: Handheld's program management includes overall management of program execution, major events, reporting, funds execution, contract management, and logistical support. Includes participation in program planning and Integrated Product Team meetings. | | | | | | | | | | | | |
| FY 2017 Plans: During this timeframe, will provide overall management and oversight to implement HMS acquisition strategy. Includes Core, Matrix, and Contractor support. | | | | | | | | | | | | |
| FY 2018 Plans: During this timeframe, will provide overall management and oversight to implement HMS acquisition strategy. Includes Core, Matrix, and Contractor support. | | | | | | | | | | | | |
| Title: HMS Engineering/Technical Support | | | | | | | | | | - | 0.067 | 0.300 |

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| Exhibit R-2A, RDT&E Project Justification: FY 2018 Army | | | Date: May 2017 | | |
| Appropriation/Budget Activity 2040 / 5 | | R-1 Program Element (Number/Name) PE 0605042A / <i>Tactical Network Radio Systems (Low-Tier)</i> | | Project (Number/Name) FA2 / <i>Rifleman Radio (RR)</i> | |
| B. Accomplishments/Planned Programs (\$ in Millions) | | | FY 2016 | FY 2017 | FY 2018 |
| Description: Overall technical analysis support to PdM HMS' Handheld products. | | | | | |
| FY 2017 Plans: Provide technical systems engineering support to evaluate technical alternatives and perform communication architecture analysis to identify alternatives to reduce cost, improve performance, and achieve tactical radio objectives. Technical test support for the planning and execution of laboratory and field test events, including support for testing of prototypes, Engineering Design Models (EDMs), commercial radio solutions, Developmental and Operational Test events, and data collection/reduction/analysis of tactical radio performance. | | | | | |
| FY 2018 Plans: Provide technical systems engineering support to evaluate technical alternatives and perform communication architecture analysis to identify alternatives to reduce cost, improve performance, and achieve tactical radio objectives. Technical test support for the planning and execution of laboratory and field test events, including support for testing of prototypes, Engineering Design Models (EDMs), commercial radio solutions, Developmental and Operational Test events, and data collection/reduction/analysis of tactical radio performance. | | | | | |
| Title: Test and Evaluation | | | - | 3.420 | 8.063 |
| Description: Handheld's Test and Evaluation focuses on the evaluation of key technical and operational characteristics of the system: Radio Frequency performance, security, Reliability, Availability & Maintainability, and survivability requirements, in addition to operational environmental performance requirements as per the Capability Production Document. All radios awarded a contract will be required to go through the Qualification Test (QT) to qualify for Verification Test (VT). Following VT HMS will perform an Operational Test (OT) to ensure the radio is operational at full capability and ready to be used by soldiers. The QT will validate the manufacturer's ability to meet the minimum functional requirements identified in the Performance Requirements Document. Radios that successfully demonstrate key capabilities during QT will proceed to VT. The VT will serve as a risk reduction event for OT. The OT will include support from Army and DoD operational testers and will use communication scenarios based on the Operational Mode Summary / Mission Profile of the system(s) under test. The OT will be designed to validate that the HMS products meets the users' needs in terms of effectiveness, suitability and survivability in an operationally realistic environment. Results from the OT will facilitate the delivery orders for Full Rate Production. | | | | | |
| FY 2017 Plans: Originally, the FY 2017 budget was to provide funding required for Performance Verification Testing (PVT) and any additional delta performance testing for the RR. The funding will also support program office support and other certifications necessary to prepare the products for fielding. | | | | | |

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| Exhibit R-2A, RDT&E Project Justification: FY 2018 Army | | | | | | | | | | Date: May 2017 | | |
| Appropriation/Budget Activity 2040 / 5 | | | | R-1 Program Element (Number/Name) PE 0605042A / Tactical Network Radio Systems (Low-Tier) | | | | Project (Number/Name) FA2 / Rifleman Radio (RR) | | | | |
| B. Accomplishments/Planned Programs (\$ in Millions) | | | | | | | | | | FY 2016 | FY 2017 | FY 2018 |
| Given program direction, the FY 2017 funding is needed to conduct testing for the LR candidate products to demonstrate compliance with program requirements; assess effectiveness, suitability, and survivability; to obtain material release for FRP; and to fund the testing requirements on the LR candidate radios as laid out in the HMS Acquisition Strategy approved May 2014. FY 2018 Plans: The FY 2018 funding is needed to conduct testing for the LR candidate products to demonstrate compliance with program requirements; assess effectiveness, suitability, and survivability; to obtain material release for FRP; and to fund the testing requirements on the LR candidate radios as laid out in the HMS Acquisition Strategy approved May 2014. | | | | | | | | | | | | |
| Accomplishments/Planned Programs Subtotals | | | | | | | | | | - | 4.005 | 10.037 |
| C. Other Program Funding Summary (\$ in Millions) | | | | | | | | | | | | |
| Line Item | FY 2016 | FY 2017 | FY 2018 Base | FY 2018 OCO | FY 2018 Total | FY 2019 | FY 2020 | FY 2021 | FY 2022 | Cost To Complete | Total Cost | |
| • PE: 0605042A, FA-1: Manpack Radio | - | 14.819 | 10.039 | - | 10.039 | 3.826 | 5.088 | 11.003 | 11.164 | Continuing | Continuing | |
| • RDTE: 0604280A: DZ5 | 4.415 | - | - | - | - | - | - | - | - | 0.000 | 4.415 | |
| • OPA: B90000, B90210: JTRS Cluster 5 (Handheld) | 29.509 | - | - | - | - | - | - | - | - | 0.000 | 29.509 | |
| • OPA: B90000, B90215: JTRS (Manpack) | 25.131 | - | - | - | - | - | - | - | - | 0.000 | 25.131 | |
| • OPA: B95004, B95006: Handheld Radio | - | 43.734 | 37.773 | - | 37.773 | 53.511 | 60.951 | 85.020 | 73.255 | Continuing | Continuing | |
| • OPA: B95004, B95007: Manpack Radio | - | 229.911 | 317.578 | - | 317.578 | 305.005 | 338.962 | 317.760 | 401.571 | Continuing | Continuing | |
| Remarks | | | | | | | | | | | | |
| HMS RDTE funding for FY 2016 and prior is held under PE 0604280A Joint Tactical Radios. HMS Procurement funding for FY 2016 and prior is held under Standard Study Number (SSN) B90210 JTRS Cluster 5 (Handheld) and SSN B90215 JTRS (Manpack). Due to a request to provide more transparency into the program, HMS RDTE funding beginning in FY 2017 will move to PE 0605042A Tactical Network Radio Systems (Low-Tier): FA1 Manpack Radio and FA2 Rifleman Radio. HMS Procurement funding beginning in FY 2017 will move to SSN B95004 Handheld Manpack Small Form Fit: SSN B95006 Handheld and SSN B95007 Manpack. | | | | | | | | | | | | |
| D. Acquisition Strategy | | | | | | | | | | | | |
| HMS is currently executing a May 2014 approved acquisition strategy to procure Non-Developmental Items (NDI) through full and open competition open to all potential industry partners. On 13 September 2016 the Army Acquisition Executive (AAE) determined to decrease the Basis of Issue (BOI) for the single channel Rifleman Radio | | | | | | | | | | | | |

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| Exhibit R-2A, RDT&E Project Justification: FY 2018 Army | | Date: May 2017 |
| Appropriation/Budget Activity 2040 / 5 | R-1 Program Element (Number/Name) PE 0605042A / <i>Tactical Network Radio Systems (Low-Tier)</i> | Project (Number/Name) FA2 / <i>Rifleman Radio (RR)</i> |
| <p>(RR), increase the BOI for the two channel Leader Radio (LR) and move forward with acquisition activities for the two channel LR. Single channel RR procurement is being deferred however the contractual vehicles still exist.</p> <p>HMS is in the process of amending the currently approved acquisition strategy to include the two channel LR. The intent is to continue the multi-vendor approach utilizing the existing IDIQ RR base contract (awarded 29 April 2015) and lessons learned to award the LR competitive contracts. The LR effort will be a separate competition under the Handheld radio suite.</p> <p>The LR will simultaneously run the Soldier Radio Waveform (SRW) and Single Channel Ground and Airborne Radio System (SINCGARS) - Army managed waveforms.</p> <p>The Army will award Firm Fixed-Price (FFP) Indefinite Delivery Indefinite Quantity (IDIQ) Contracts and will procure radios through a multiple step selection process:</p> <ul style="list-style-type: none"> a. Award FFP Contracts to all qualified vendors based on technical acceptability and demonstrations (4QFY17) b. Award initial delivery orders based on Qualification Test results (3QFY18) c. Award FRP delivery orders based on Operational Test and best value trade off construct (3QFY19) <p><u>E. Performance Metrics</u></p> <p>N/A</p> | | |

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| Exhibit R-3, RDT&E Project Cost Analysis: FY 2018 Army | | | | | | | | | | | | | Date: May 2017 | | |
| Appropriation/Budget Activity 2040 / 5 | | | | | | R-1 Program Element (Number/Name) PE 0605042A / <i>Tactical Network Radio Systems (Low-Tier)</i> | | | | | Project (Number/Name) FA2 / <i>Rifleman Radio (RR)</i> | | | | |
| Management Services (\$ in Millions) | | | | FY 2016 | | FY 2017 | | FY 2018 Base | | FY 2018 OCO | | FY 2018 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 |
| Project Management Office Support | TBD | PEO C3T, CECOM, PM TR Alliant : Various; APG, MD | 0.000 | - | | 0.518 | | 1.674 | | - | | 1.674 | 0.000 | 2.192 | 0.000 |
| Subtotal | | | 0.000 | - | | 0.518 | | 1.674 | | - | | 1.674 | 0.000 | 2.192 | 0.000 |
| Support (\$ in Millions) | | | | FY 2016 | | FY 2017 | | FY 2018 Base | | FY 2018 OCO | | FY 2018 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 |
| HMS Engineering/ Technical Support | TBD | PEO C3T, ARL, ESP, CECOM, CERDEC, LCMC : Various | 0.000 | - | | 0.067 | | 0.300 | | - | | 0.300 | 0.000 | 0.367 | 0.000 |
| Subtotal | | | 0.000 | - | | 0.067 | | 0.300 | | - | | 0.300 | 0.000 | 0.367 | 0.000 |
| Test and Evaluation (\$ in Millions) | | | | FY 2016 | | FY 2017 | | FY 2018 Base | | FY 2018 OCO | | FY 2018 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 |
| Follow on Delta Development & Testing | RO | EPG : Fort Huachuca | 0.000 | - | | 2.770 | | 2.100 | | - | | 2.100 | 0.000 | 4.870 | 0.000 |
| Follow on Delta Development & Testing (2) | TBD | OTC : TBD | 0.000 | - | | 0.650 | | 5.963 | | - | | 5.963 | 0.000 | 6.613 | 0.000 |
| Subtotal | | | 0.000 | - | | 3.420 | | 8.063 | | - | | 8.063 | 0.000 | 11.483 | 0.000 |
| | | | Prior Years | FY 2016 | | FY 2017 | | FY 2018 Base | | FY 2018 OCO | | FY 2018 Total | Cost To Complete | Total Cost | Target Value of Contract |
| Project Cost Totals | | | 0.000 | - | | 4.005 | | 10.037 | | - | | 10.037 | 0.000 | 14.042 | - |
| Remarks | | | | | | | | | | | | | | | |

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| Exhibit R-4, RDT&E Schedule Profile: FY 2018 Army | | | | | | | | | | | | | | | | Date: May 2017 | | | | | | | | | | | | | |
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| Appropriation/Budget Activity 2040 / 5 | | | | | | | | | | R-1 Program Element (Number/Name) PE 0605042A / Tactical Network Radio Systems (Low-Tier) | | | | | | | | | | Project (Number/Name) FA2 / Rifleman Radio (RR) | | | | | | | | | |
| Event Name | FY 2016 | | | | FY 2017 | | | | FY 2018 | | | | FY 2019 | | | | FY 2020 | | | | FY 2021 | | | | FY 2022 | | | | |
| | 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 | |
| (1) Leader Radio (LR) Release For Proposal (RFP) | | | | | | | 1 | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | LR RFP | | | | | | | | | | | | | | | | | | | | | | |
| (2) LR Contract Award | | | | | | | 2 | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | LR Contract Award | | | | | | | | | | | | | | | | | | | | | | |
| LR Qualification Test (QT) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| LR Verification Test | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| LR Log Demo | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| LR Operational Test (OT) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| (3) LR Full Rate Production (FRP) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| LR Performance Verification Test (PVT) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| LR PVT FY2021 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| LR PVT FY2022 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| Exhibit R-4A, RDT&E Schedule Details: FY 2018 Army | | | Date: May 2017 |
| Appropriation/Budget Activity 2040 / 5 | R-1 Program Element (Number/Name) PE 0605042A / <i>Tactical Network Radio Systems (Low-Tier)</i> | Project (Number/Name) FA2 / <i>Rifleman Radio (RR)</i> | |

Schedule Details

| Events | Start | | End | |
|----------------------------------------------|----------------|-------------|----------------|-------------|
| | Quarter | Year | Quarter | Year |
| Leader Radio (LR) Release For Proposal (RFP) | 3 | 2017 | 3 | 2017 |
| LR Contract Award | 4 | 2017 | 4 | 2017 |
| LR Qualification Test (QT) | 2 | 2018 | 2 | 2018 |
| LR Verification Test | 3 | 2018 | 4 | 2018 |
| LR Log Demo | 1 | 2019 | 1 | 2019 |
| LR Operational Test (OT) | 4 | 2018 | 2 | 2019 |
| LR Full Rate Production (FRP) | 4 | 2019 | 4 | 2019 |
| LR Performance Verification Test (PVT) | 3 | 2020 | 4 | 2020 |
| LR PVT FY2021 | 2 | 2021 | 3 | 2021 |
| LR PVT FY2022 | 3 | 2022 | 3 | 2022 |