Exhibit R-2, RDT&E Budget Item Justification: PB 2020 Army

Date: March 2019

Appropriation/Budget Activity

R-1 Program Element (Number/Name)

2040: Research, Development, Test & Evaluation, Army I BA 5: System

PE 0605029A I Integrated Ground Security Surveillance Response Capability (IGSSR-C)

Development & Demonstration (SDD)

| , | , | | | | | | | | | | | |
|---|----------------|---------|---------|-----------------|----------------|------------------|---------|---------|---------|---------|---------------------|---------------|
| COST (\$ in Millions) | Prior Years | FY 2018 | FY 2019 | FY 2020 Base | FY 2020 OCO | FY 2020 Total | FY 2021 | FY 2022 | FY 2023 | FY 2024 | Cost To Complete | Total Cost |
| Total Program Element | - | 4.241 | 3.207 | 6.699 | - | 6.699 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 14.147 |
| EQ2: IntegGrdSecSurvRespC(IGSSR- C) | - | 4.241 | 3.207 | 6.699 | - | 6.699 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 14.147 |

A. Mission Description and Budget Item Justification

The Integrated Ground Security, Surveillance and Response Capability (IGSSR-C) is an Automated Information System (AIS) program. IGSSR-C has a requirement to provide a layered approach to integrate sensors, sensor systems and unmanned systems with automated fusion capabilities. The system will provide a Force Protection (FP) Common Operational Picture (COP) capability for CONUS fixed, OCONUS semi-fixed or expeditionary elements in all Operating Environments (OE).

This capability will enable rapid decision analysis, speed the response process as well as increase information dissemination horizontally and vertically along the chain of command and with outside supporting organizations. IGSSR-C is a software centric fusion engine that connects legacy and emerging FP systems, legacy Chemical, Biological, Radiological, and Nuclear (CBRN), unmanned systems, biometric identification and forensic data systems. The desired end state is to achieve interoperability and COP with current and emerging FP systems used by Joint Forces, Department of Defense (DoD) agencies and multi-national forces.

| B. Program Change Summary (\$ in Millions) | FY 2018 | FY 2019 | FY 2020 Base | FY 2020 OCO | FY 2020 Total |
|---|---------|---------|--------------|-------------|---------------|
| Previous President's Budget | 4.418 | 3.211 | 5.780 | - | 5.780 |
| Current President's Budget | 4.241 | 3.207 | 6.699 | - | 6.699 |
| Total Adjustments | -0.177 | -0.004 | 0.919 | - | 0.919 |
| Congressional General Reductions | -0.004 | -0.004 | | | |
| Congressional Directed Reductions | - | - | | | |
| Congressional Rescissions | - | - | | | |
| Congressional Adds | - | - | | | |
| Congressional Directed Transfers | - | - | | | |
| Reprogrammings | - | - | | | |
| SBIR/STTR Transfer | -0.173 | - | | | |
| Adjustments to Budget Years | - | - | 0.919 | - | 0.919 |

Change Summary Explanation

FY 2018 variation due to \$4 thousand for FFRDC Reduction \$173K for SBIR/STTR reduction.

FY 2019 variation due to reduction of \$107 thousand for SBIR/STTR.

FY 2020 increase of \$0.919 million is due to an adjustment required to align funding with planned acquisition strategy.

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| Exhibit R-2A, RDT&E Project Ju | ıstification | : PB 2020 A | Army | | | | | Date: Marc | ch 2019 | | | | | |
|---|----------------|-------------|---------|-----------------|----------------|---|-------------|------------|---------|---|---------------------|---------------|--|--|
| 2040 / 5 | | | | | PE 060502 | am Elemen 29A I Integra ce Responsa | ated Ground | Security | , , | lumber/Name) gGrdSecSurvRespC(IGSSR-C) | | | | |
| COST (\$ in Millions) | Prior Years | FY 2018 | FY 2019 | FY 2020 Base | FY 2020 OCO | FY 2020 Total | FY 2021 | FY 2022 | FY 2023 | FY 2024 | Cost To Complete | Total Cost | | |
| EQ2: IntegGrdSecSurvRespC(IGSSR- C) | - | 4.241 | 3.207 | 6.699 | - | 6.699 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 14.147 | | |
| Quantity of RDT&E Articles | - | - | - | - | - | - | - | - | - | - | | | | |

A. Mission Description and Budget Item Justification

Army

The Integrated Ground Security, Surveillance and Response Capability (IGSSR-C) is an Automated Information System (AIS) program. IGSSR-C has a requirement to provide a layered approach to integrate sensors, sensor systems and unmanned systems with automated fusion capabilities. The system will provide a Force Protection (FP) Common Operational Picture (COP) capability for CONUS fixed, OCONUS semi-fixed or expeditionary elements in all Operating Environments (OE).

This capability will enable rapid decision analysis, speed the response process as well as increase information dissemination horizontally and vertically along the chain of command and with outside supporting organizations. IGSSR-C is a software centric fusion engine that connects legacy and emerging FP systems, legacy Chemical, Biological, Radiological, and Nuclear (CBRN), unmanned systems, biometric identification and forensic data systems. The desired end state is to achieve interoperability and COP with current and emerging FP systems used by Joint Forces, Department of Defense (DoD) agencies and multi-national forces.

FY 2020 Base Funding in the amount of \$6.699 million supports completion of the final software solution of IGSSR-C. Completion of a CDR/ System Verification Review (SVR), Developmental and Limited User Test (LUT) events, modeling and simulation in support of achieving a Milestone C decision will be accomplished in FY20.

| B. Accomplishments/Planned Programs (\$ in Millions) | FY 2018 | FY 2019 | FY 2020 Base | FY 2020 OCO | FY 2020 Total |
|--|---------|---------|-----------------|----------------|------------------|
| Title: IGSSR-C Design and Development | 4.241 | 3.104 | 6.699 | - | 6.699 |
| Description: Completes IGSSR-C design efforts and software integration activities, achieves Milestone C decision, procures three hardware sets, and completes IOT&E. | | | | | |
| FY 2019 Plans: FY 2019 Plans: Complete development and implementation of all technical requirements. Complete Critical Design Review (CDR) and supports Developmental Testing and Limited User Testing (LUT). Provides support to modeling and simulation efforts. | | | | | |
| FY 2020 Base Plans: FY 2020 Plans: | | | | | |

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R-1 Line #145

| Exhibit R-2A, RDT&E Project Justification: PB 2020 Army | Date: March 2019 | | |
|---|------------------|-----|--|
| , , , | , , | , , | umber/Name) gGrdSecSurvRespC(IGSSR-C) |

| B. Accomplishments/Planned Programs (\$ in Millions) | FY 2018 | FY 2019 | FY 2020 Base | FY 2020 OCO | FY 2020 Total |
|--|---------|---------|-----------------|----------------|------------------|
| Achieve Milestone C decision, procure three hardware sets, and complete IOT&E. | | | | | |
| FY 2019 to FY 2020 Increase/Decrease Statement: FY 2020 increase of \$0.919 million is due to an adjustment required to align funding with planned acquisition strategy. | | | | | |
| Title: FY 2019 SBIR / STTR Transfer | - | 0.103 | - | - | - |
| FY 2019 Plans: FY 2019 SBIR / STTR Transfer | | | | | |
| FY 2019 to FY 2020 Increase/Decrease Statement: FY 2019 SBIR / STTR Transfer | | | | | |
| Accomplishments/Planned Programs Subtotals | 4.241 | 3.207 | 6.699 | - | 6.699 |

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

| | | | FY 2020 | FY 2020 | FY 2020 | | | | | Cost To | |
|----------------------------------|---------|---------|-------------|---------|--------------|---------|---------|---------|---------|----------|-------------------|
| Line Item | FY 2018 | FY 2019 | Base | OCO | Total | FY 2021 | FY 2022 | FY 2023 | FY 2024 | Complete | Total Cost |
| M90101: Base | 25.926 | 39.200 | 0.000 | 47.110 | 47.110 | 47.581 | 24.028 | 24.028 | 24.509 | 0.000 | 232.382 |
| Defense Systems (BDS) | | | | | | | | | | | |

Remarks

D. Acquisition Strategy

IGSSR-C provides a layered approach to integrate sensors, sensor systems and unmanned systems. The IGSSR-C Capability Design Document (CDD) was approved September 2013. IGSSR-C is made up of a suite of software that achieves integration, fusion and interoperability in support of the Army Acquisition Executive's Common Operating Environment (COE) Command Post Compute Environment (CPCE) and Sensor CE efforts.

The IGSSR-C program received an approved Materiel Development Decision (MDD) from the Milestone Decision Authority (MDA) on 4 December 2015, and achieved a Milestone B decision on 29 Sep 2017.

The acquisition strategy for IGSSR-C was approved on 5 December 2016 by the MDA, which approved plans to leverage a contract through the Night Vision and Electronic Sensors Directorate (NVESD), Fort Belvoir, Virginia to develop, integrate and test the software solution to meet the IGSSR-C requirements.

Milestone C is planned for 2QFY21

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Army

| Exhibit R-2A, RDT&E Project Justification: PB 2020 A | Date: March 2019 | | | | |
|--|---|---|--|--|--|
| Appropriation/Budget Activity 2040 / 5 | R-1 Program Element (Number/Name) PE 0605029A I Integrated Ground Security Surveillance Response Capability (IGSSR-C) | Project (Number/Name) EQ2 I IntegGrdSecSurvRespC(IGSSR-C) | | | |
| E. Performance Metrics | | | | | |
| N/A | | | | | |
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PE 0605029A: Integrated Ground Security Surveillance ... Army

| Exhibit R-3, RDT&E I | Project C | ost Analysis: PB 2 | 020 Army | / | | | | | | | | Date: | March 20 | J19 | | | | | |
|--|------------------------------|--|----------------|-------|---------------|--------|-------------------------------------|-------------|---------------|----------|---------------|----------------------|---------------------|-------------------------------|-------------------------------|--|--|--|--|
| Appropriation/Budge 2040 / 5 | et Activity | | | | | PE 060 | ogram Ele 5029A I Ir ance Res | ntegrated | Ground S | Security | | (Number ntegGrdSe | | me) urvRespC(IGSSR- | | | | | |
| Management Service | es (\$ in M | illions) | | FY 2 | 2018 | FY 2 | 2019 | FY 2 Ba | 2020 ise | FY 2 | 2020 CO | FY 2020 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 | Total Cost | Target Value o Contrac | | | | |
| IGSSR-C Project Management | MIPR | PM FPS : Fort Belvoir, VA | 0.151 | 0.924 | | 0.441 | May 2019 | 0.556 | May 2020 | - | | 0.556 | 0.000 | 2.072 | - | | | | |
| | | Subtotal | 0.151 | 0.924 | | 0.441 | | 0.556 | | - | | 0.556 | 0.000 | 2.072 | N/ | | | | |
| Product Development (\$ in Millions) | | | FY 2 | 2018 | FY 2 | 2019 | FY 2 Ba | 2020 ise | FY 2 | | | | | | | | | | |
| 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 | Total Cost | Target Value of Contrac | | | | |
| IGSSR-C Design | C/CPFF | NVESD/MTEQ : Ft. Belvoir | 1.873 | 1.898 | | 0.971 | Feb 2019 | - | | - | | - | Continuing | Continuing | Continuir | | | | |
| IGSSR-C Prototypes | C/CPFF | NVESD/MTEQ : Ft. Belvoir | 1.865 | - | | 0.397 | Feb 2019 | 3.915 | Jan 2020 | - | | 3.915 | Continuing | Continuing | Continuir | | | | |
| IGSSR-C Independent Software Assessment | MIPR | Carnegie Mellon University Software Engineering Institute : Pittsburgh, PA | - | 0.456 | | 0.362 | Apr 2019 | 0.502 | Mar 2020 | - | | 0.502 | Continuing | Continuing | Continuir | | | | |
| FY 2019 SBIR/STTR Transfer | TBD | TBD : TBD | - | - | | 0.103 | | - | | - | | - | 0.000 | 0.103 | - | | | | |
| | | Subtotal | 3.738 | 2.354 | | 1.833 | | 4.417 | | - | | 4.417 | Continuing | Continuing | N/ | | | | |
| Support (\$ in Million | s) | | | FY 2 | 2018 | FY 2 | 2019 | FY 2 Ba | 2020 ise | FY 2 | 2020 CO | FY 2020 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 o Contrac | | | | |
| IGSSR-C Design Support | MIPR | RDECOM CERDEC : Fort Belvoir, VA | 0.505 | 0.193 | | 0.156 | Feb 2019 | | | | | _ | Continuing | Continuing | Continuir | | | | |
| | | Subtotal | 0.505 | 0.193 | | 0.156 | | - | | - | | _ | Continuing | Continuing | N/ | | | | |

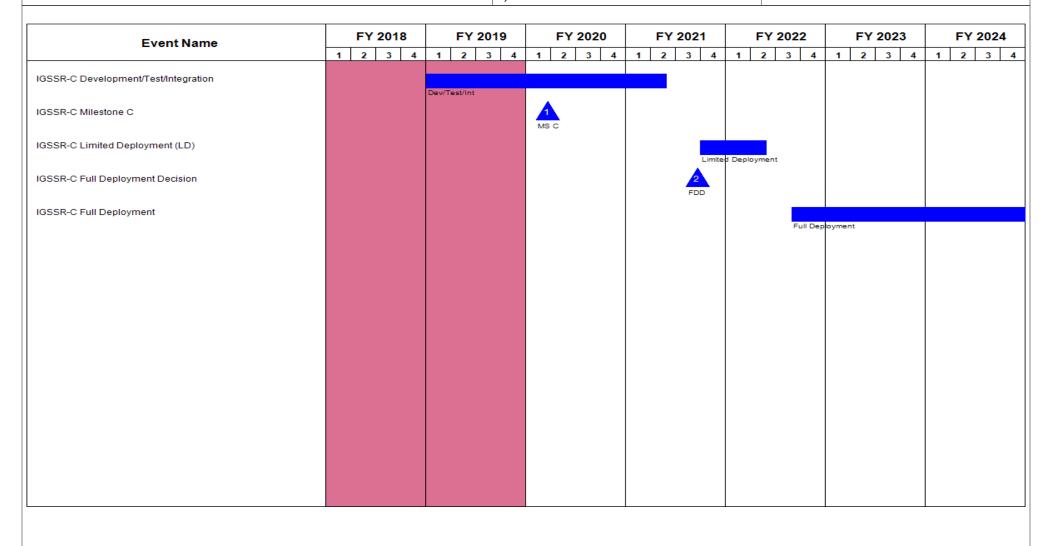
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| Exhibit R-3, RDT&E Project Cost Analysis: PB 2020 Army | | | Date: March 2019 |
|--|--|-------------|---------------------------|
| Appropriation/Budget Activity | R-1 Program Element (Number/Name) | Project (N | umber/Name) |
| 2040 / 5 | PE 0605029A I Integrated Ground Security | EQ2 / Integ | gGrdSecSurvRespC(IGSSR-C) |
| | Surveillance Response Capability (IGSSR- | | |
| | (C) | | |

| Test and Evaluation (\$ in Millions) | | | FY 2 | 2018 | FY 2 | 2019 | | 2020 ase | | 2020 CO | FY 2020 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 | Total Cost | Target Value of Contract |
| IGSSR-C Test and Evaluation | MIPR | ATEC : Aberdeen Proving Ground, MD | 0.395 | 0.655 | | 0.508 | Feb 2019 | 1.454 | Feb 2020 | - | | 1.454 | Continuing | Continuing | Continuing |
| IGSSR-C Modeling and Simulation | MIPR | Night Vision and Electronic Sensors Directorate : Ft. Belvoir, VA | - | 0.115 | | 0.117 | Feb 2019 | 0.117 | Mar 2020 | - | | 0.117 | Continuing | Continuing | Continuing |
| IGSSR-C Software Support Planning and Documentation | MIPR | CECOM SEC : Aberdeen, MD | - | - | | 0.152 | Feb 2019 | 0.155 | Mar 2020 | - | | 0.155 | 0.000 | 0.307 | - |
| | | Subtotal | 0.395 | 0.770 | | 0.777 | | 1.726 | | - | | 1.726 | Continuing | Continuing | N/A |
| | | | Prior | | | | | FY 2 | 2020 | FY: | 2020 | FY 2020 | Cost To | Total | Target Value of |

| | Prior | EV 2040 | EV 6 | 2040 | FY 2 | | FY | | FY 2020 | Cost To | Total | Target Value of |
|---------------------|-------|---------|-------|------|-------|-----|----|----|---------|------------|------------|--------------------|
| | Years | FY 2018 | FY 2 | 2019 | Ва | ise | 00 | co | Total | Complete | Cost | Contract |
| Project Cost Totals | 4.789 | 4.241 | 3.207 | | 6.699 | | - | | 6.699 | Continuing | Continuing | N/A |

Remarks



| Exhibit R-4A, RDT&E Schedule Details: PB 2020 Army | | | Date: March 2019 | |
|--|--|-----------------------|---------------------------|--|
| Appropriation/Budget Activity | R-1 Program Element (Number/Name) | Project (Number/Name) | | |
| 2040 / 5 | PE 0605029A I Integrated Ground Security | EQ2 / Integ | gGrdSecSurvRespC(IGSSR-C) | |
| | Surveillance Response Capability (IGSSR- | | | |
| | (C) | | | |

Schedule Details

| | Start | | End | |
|--------------------------------------|---------|------|---------|------|
| Events | Quarter | Year | Quarter | Year |
| IGSSR-C Risk Reduction | 4 | 2015 | 4 | 2017 |
| IGSSR-C Development/Test/Integration | 1 | 2019 | 2 | 2021 |
| IGSSR-C Milestone C | 1 | 2020 | 1 | 2020 |
| IGSSR-C Limited Deployment (LD) | 4 | 2021 | 2 | 2022 |
| IGSSR-C Full Deployment Decision | 3 | 2021 | 3 | 2021 |
| IGSSR-C Full Deployment | 3 | 2022 | 3 | 2025 |