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Exhibit R-2, RDT&E Budget Item Justification: PB 2021 Air Force **Date:** February 2020

| | |
|--|---|
| Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 4: Advanced Component Development & Prototypes (ACD&P)</i> | R-1 Program Element (Number/Name) PE 0207100F / <i>Light Attack Armed Reconnaissance (LAAR) Squadrons</i> |
|--|---|

| COST (\$ in Millions) | Prior Years | FY 2019 | FY 2020 | FY 2021 Base | FY 2021 OCO | FY 2021 Total | FY 2022 | FY 2023 | FY 2024 | FY 2025 | Cost To Complete | Total Cost |
|---|-------------|---------|---------|--------------|-------------|---------------|---------|---------|---------|---------|------------------|------------|
| Total Program Element | - | 0.000 | 2.000 | 0.014 | 0.000 | 0.014 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 2.014 |
| 643730: <i>EO/IR Weather System Dev</i> | - | 0.000 | 0.000 | 0.007 | 0.000 | 0.007 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.007 |
| 643865: <i>Light Attack</i> | - | 0.000 | 2.000 | 0.007 | 0.000 | 0.007 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 2.007 |

Note
This program, BA 4, PE 0207100F, project 643730, EO/IR Weather System Development, is a new start.

A. Mission Description and Budget Item Justification

The Light Attack Aircraft (LAA) platform increases combat capability and readiness at reduced operating costs for missions in permissive environments. LAA executes under a middle tier rapid fielding acquisition strategy pursuant to Section 804 of the FY16 National Defense Authorization Act. The LAA option offers flexibility and accelerates modernization of current and potential partner forces who do not require advanced fighter aircraft. The LAA effort supports the National Defense Strategy to counter violent extremism on a global scale, alongside allies and partners

This effort is in Budget Activity 4, Advanced Component Development and Prototypes (ACD&P), because efforts are necessary to evaluate integrated technologies, representative modes or prototype systems in a high fidelity and realistic operating environment.

| B. Program Change Summary (\$ in Millions) | <u>FY 2019</u> | <u>FY 2020</u> | <u>FY 2021 Base</u> | <u>FY 2021 OCO</u> | <u>FY 2021 Total</u> |
|---|----------------|----------------|---------------------|--------------------|----------------------|
| Previous President's Budget | 0.000 | 35.000 | 35.000 | 0.000 | 35.000 |
| Current President's Budget | 0.000 | 2.000 | 0.014 | 0.000 | 0.014 |
| Total Adjustments | 0.000 | -33.000 | -34.986 | 0.000 | -34.986 |
| • Congressional General Reductions | 0.000 | 0.000 | | | |
| • Congressional Directed Reductions | 0.000 | -33.000 | | | |
| • Congressional Rescissions | 0.000 | 0.000 | | | |
| • Congressional Adds | 0.000 | 0.000 | | | |
| • Congressional Directed Transfers | 0.000 | 0.000 | | | |
| • Reprogrammings | 0.000 | 0.000 | | | |
| • SBIR/STTR Transfer | 0.000 | 0.000 | | | |
| • Other Adjustments | 0.000 | 0.000 | -34.986 | 0.000 | -34.986 |

Change Summary Explanation

FY20 Congressional reduction for Restoring acquisition accountability: Unclear acquisition strategy

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| Appropriation/Budget Activity | R-1 Program Element (Number/Name) |
|--|---|
| 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 4: Advanced Component Development & Prototypes (ACD&P)</i> | PE 0207100F / <i>Light Attack Armed Reconnaissance (LAAR) Squadrons</i> |

FY21 Funding transferred to SOCOM

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| Exhibit R-2A, RDT&E Project Justification: PB 2021 Air Force | | | | | | | | | | Date: February 2020 | | |
| Appropriation/Budget Activity 3600 / 4 | | | | | R-1 Program Element (Number/Name) PE 0207100F / <i>Light Attack Armed Reconnaissance (LAAR) Squadrons</i> | | | | | Project (Number/Name) 643730 / <i>EO/IR Weather System Dev</i> | | |
| COST (\$ in Millions) | Prior Years | FY 2019 | FY 2020 | FY 2021 Base | FY 2021 OCO | FY 2021 Total | FY 2022 | FY 2023 | FY 2024 | FY 2025 | Cost To Complete | Total Cost |
| 643730: <i>EO/IR Weather System Dev</i> | - | 0.000 | 0.000 | 0.007 | 0.000 | 0.007 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.007 |
| Quantity of RDT&E Articles | - | - | - | - | - | - | - | - | - | - | | |

Note

This program, BA 4, PE 0207100F, project 643730, EO/IR Weather System Development, is a new start.

A. Mission Description and Budget Item Justification

Based on completion of the Space-Based Environmental Monitoring (SBEM) Joint Requirements Oversight Council (JROC) Memo 092-14, capabilities will be developed to satisfy weather Gap 1 (Cloud Characterization) and Gap 2 (Theater Weather Imagery). Electro-Optical/Infrared (EO/IR) Weather Systems is a component of SBEM efforts to develop capabilities to satisfy weather Gap 1 (Cloud Characterization) and Gap 2 (Theater Weather Imagery). The earliest possible launch options are being integrated in the design for critical gaps.

Based on the SBEM Analysis of Alternatives (AoA) results, the EO/IR Weather Systems (EWS) initial thrusts will enable:

- 1) DoD use of data collected by civil, international and other DoD space systems;
- 2) Timely weather collection of EWS Program of Record;
- 3) Explore and/or utilize the use of commercially available data.

Secondary investments may be supported to address weather gaps identified in the SBEM AoA and validated by the JROC.

EWS will consist of a Low Earth Orbiting (LEO) Freeflyer space vehicle in a sun-synchronous, early morning orbit and a ground architecture (LEO Ground) for mission data retrieval/processing and telemetry, tracking, and control. EWS will provide environmental monitoring in the Electro-Optical/Infrared (EO/IR) Family of Systems providing coverage to meet Space Based Environmental Monitoring (SBEM) Gaps 1 and 2, Cloud Characterization (CC) and Theater Weather Imagery (TWI).

Space acquisition must respond with speed and agility to emerging adversary threats. Space & Missile Systems Center (SMC) is transforming the organization and implementation of space acquisition to an enterprise approach, maximizing innovation and resiliency, leveraging international, commercial, and mission partnerships, and managing program/project priorities according to an integrated unclassified/classified enterprise space architecture. Expanding the appropriate acquisition authorities and contract mechanisms to deliver capability sooner, SMC will strategically execute experimentation, prototyping, risk reduction, and other efforts to develop new or repurpose capabilities.

This program element may include necessary civilian pay expenses required to manage, execute, and deliver EWS weapon system capability. The use of such program funds would be in addition to the civilian pay expenses budgeted in program elements 1206392F and 1206398F.

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

| | FY 2019 | FY 2020 | FY 2021 |
|--|----------------|----------------|----------------|
| Title: EO/IR Weather System Development | - | - | 0.007 |
| Description: EO/IR Weather System Development | | | |
| FY 2021 Plans: | | | |

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| Exhibit R-2A, RDT&E Project Justification: PB 2021 Air Force | | Date: February 2020 | | |
| Appropriation/Budget Activity 3600 / 4 | R-1 Program Element (Number/Name) PE 0207100F / <i>Light Attack Armed Reconnaissance (LAAR) Squadrons</i> | Project (Number/Name) 643730 / <i>EO/IR Weather System Dev</i> | | |
| B. Accomplishments/Planned Programs (\$ in Millions) | | FY 2019 | FY 2020 | FY 2021 |
| EO/IR Weather System Development | | | | |
| FY 2020 to FY 2021 Increase/Decrease Statement: N/A | | | | |
| Accomplishments/Planned Programs Subtotals | | - | - | 0.007 |
| C. Other Program Funding Summary (\$ in Millions) N/A | | | | |
| Remarks | | | | |
| D. Acquisition Strategy The acquisition strategy for EWS is based on validated SBEM AoA and JROC Memo 033-16 and subsequent acquisition strategy development activities that were conducted in FY 2018. The acquisition strategy for EWS will be finalized in the first quarter of FY 2019 to support an anticipated development RFP release in the second quarter of FY 2019. The program office successfully completed a Materiel Development Decision with the Air Force Program Executive Officer of Space (AFPEO/SP) on 3 May 17, Milestone A and the Acquisition Decision Memorandum on 19 May 17. | | | | |

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| Exhibit R-4, RDT&E Schedule Profile: PB 2021 Air Force | | Date: February 2020 |
| Appropriation/Budget Activity 3600 / 4 | R-1 Program Element (Number/Name) PE 0207100F / <i>Light Attack Armed Reconnaissance (LAAR) Squadrons</i> | Project (Number/Name) 643730 / <i>EO/IR Weather System Dev</i> |

| | FY 2019 | | | | FY 2020 | | | | FY 2021 | | | | FY 2022 | | | | FY 2023 | | | | FY 2024 | | | | FY 2025 | | | |
|--|---------|---|---|---|---------|---|---|---|---------|---|---|---|---------|---|---|---|---------|---|---|---|---------|---|---|---|---------|---|---|---|
| | 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 |

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
| <i>EO/IR Weather System Development</i> | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| EO/IR Weather System Development | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

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| Exhibit R-4A, RDT&E Schedule Details: PB 2021 Air Force | | Date: February 2020 |
| Appropriation/Budget Activity 3600 / 4 | R-1 Program Element (Number/Name) PE 0207100F / <i>Light Attack Armed Reconnaissance (LAAR) Squadrons</i> | Project (Number/Name) 643730 / <i>EO/IR Weather System Dev</i> |

Schedule Details

| Events by Sub Project | Start | | End | |
|--|---------|------|---------|------|
| | Quarter | Year | Quarter | Year |
| <i>EO/IR Weather System Development</i> | | | | |
| EO/IR Weather System Development | 1 | 2021 | 4 | 2021 |

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| Appropriation/Budget Activity 3600 / 4 | R-1 Program Element (Number/Name) PE 0207100F / <i>Light Attack Armed Reconnaissance (LAAR) Squadrons</i> | Project (Number/Name) 643865 / <i>Light Attack</i> |
|--|---|--|

| COST (\$ in Millions) | Prior Years | FY 2019 | FY 2020 | FY 2021 Base | FY 2021 OCO | FY 2021 Total | FY 2022 | FY 2023 | FY 2024 | FY 2025 | Cost To Complete | Total Cost |
|-----------------------------|-------------|---------|---------|--------------|-------------|---------------|---------|---------|---------|---------|------------------|------------|
| 643865: <i>Light Attack</i> | - | 0.000 | 2.000 | 0.007 | 0.000 | 0.007 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 2.007 |
| Quantity of RDT&E Articles | - | - | - | - | - | - | - | - | - | - | | |

A. Mission Description and Budget Item Justification

The Light Attack Aircraft (LAA) platform increases combat capability and readiness at reduced operating costs for missions in permissive environments. LAA executes under a middle tier rapid fielding acquisition strategy pursuant to Section 804 of the FY16 National Defense Authorization Act. The LAA option offers flexibility and accelerates modernization of current and potential partner forces who do not require advanced fighter aircraft. The LAA effort supports the National Defense Strategy to counter violent extremism on a global scale, alongside allies and partners.

LAA squadrons will provide a deployable and sustainable multirole attack capability, capable of performing a diverse array of attack missions, including but not limited to, Close Air Support (CAS), Armed Reconnaissance, Strike Coordination and Reconnaissance (SCAR), Airborne Forward Air control (FAC-A), and Interdiction. Other tasks for which Light Attack aircraft is expected to be suitable include Combat Search and Rescue (CSAR), Rescue Escort (RESCORT), and Maritime Air Support (MAS). LAA squadrons executing these tasks allows our 4th and 5th Generation fighter fleets to implement a tailored training regimen to address declining core mission readiness and focus on preparing to deter or prevail in conflicts with peer adversaries. LAA will provide a deployable, persistent attack capability that can be employed with low footprint and light logistical support requirements.

Phase III of the Light Attack experiment will seek to identify, assess and mature tactics, techniques, and procedures (TTPs) for coalition low-end counter-land operations, and assess TTPs using various networked capability packages while measuring the success and timeliness of "find-fix-track-target-engage-assess" (F2T2EA) operations.

This program element may include necessary civilian pay expenses required to manage, execute, and deliver the Light Attack weapon system capability. The use of such program funds would be in addition to the civilian pay expenses budgeted in program element 0605831F

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

| | FY 2019 | FY 2020 | FY 2021 |
|---|---------|---------|---------|
| Title: LAA | 0.000 | 2.000 | 0.007 |
| Description: Prior Year funding include \$100M of 2018 RDT&E in PE 0604858F 'Tech Transition'. Funds provided to demonstrate, prototype and experiment with technologies and concepts to enable or accelerate their transition to acquisition programs and/or operational use. | | | |
| FY 2020 Plans: | | | |

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| B. Accomplishments/Planned Programs (\$ in Millions) | FY 2019 | FY 2020 | FY 2021 |
|---|----------------|----------------|----------------|
| Light Air Attack (LAA) experimentation effort continues with the development of operational tactics of an exportable network with international partners. | | | |
| <i>FY 2021 Plans:</i> N/A - Funding transferred to SOCOM | | | |
| <i>FY 2020 to FY 2021 Increase/Decrease Statement:</i> Funding Transferred to SOCOM | | | |
| Accomplishments/Planned Programs Subtotals | 0.000 | 2.000 | 0.007 |

| C. Other Program Funding Summary (\$ in Millions) | | | | | | | | | | | |
|--|----------------|----------------|-------------------------------|------------------------------|--------------------------------|----------------|----------------|----------------|----------------|-----------------------------------|-------------------|
| <u>Line Item</u> | <u>FY 2019</u> | <u>FY 2020</u> | <u>FY 2021</u> <u>Base</u> | <u>FY 2021</u> <u>OCO</u> | <u>FY 2021</u> <u>Total</u> | <u>FY 2022</u> | <u>FY 2023</u> | <u>FY 2024</u> | <u>FY 2025</u> | <u>Cost To</u> <u>Complete</u> | <u>Total Cost</u> |
| • APAF 04 OAX000: <i>Observation Attack Replacement (OA-X)</i> | 100.000 | 210.000 | 0.000 | - | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 310.000 |

Remarks

D. Acquisition Strategy

The LAA acquisition strategy is anticipated to utilize other transaction agreements for prototyping purposes pursuant to 10 U.S.C. § 2371b.

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| Exhibit R-4A, RDT&E Schedule Details: PB 2021 Air Force | | Date: February 2020 |
| Appropriation/Budget Activity 3600 / 4 | R-1 Program Element (Number/Name) PE 0207100F / <i>Light Attack Armed Reconnaissance (LAAR) Squadrons</i> | Project (Number/Name) 643865 / <i>Light Attack</i> |

Schedule Details

| Events by Sub Project | Start | | End | |
|-----------------------|---------|------|---------|------|
| | Quarter | Year | Quarter | Year |
| LAA | | | | |
| Experimentation | 1 | 2020 | 4 | 2020 |