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Exhibit R-2, RDT&E Budget Item Justification: PB 2023 Air Force **Date:** April 2022

| | |
|---|--|
| Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force / BA 5: System Development & Demonstration (SDD)</i> | R-1 Program Element (Number/Name) PE 0101125F / <i>Nuclear Weapons Modernization</i> |
|---|--|

| COST (\$ in Millions) | Prior Years | FY 2021 | FY 2022 | FY 2023 Base | FY 2023 OCO | FY 2023 Total | FY 2024 | FY 2025 | FY 2026 | FY 2027 | Cost To Complete | Total Cost |
|---|-------------|---------|---------|--------------|-------------|---------------|---------|---------|---------|---------|------------------|------------|
| Total Program Element | 710.406 | 9.595 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 720.001 |
| 657007: <i>B61 LIFE EXTENSION PROGRAM</i> | 710.406 | 9.595 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 720.001 |
| Quantity of RDT&E Articles | - | - | - | - | - | - | - | - | - | - | - | - |

Program MDAP/MAIS Code: 468

A. Mission Description and Budget Item Justification

The purpose of this program element is to conduct and support United States Air Force (USAF) and Joint Department of Defense (DoD) / Department of Energy (DOE) acquisition activities for the modernization of nuclear weapons.

B61-12 Life Extension Program (LEP): The B61-12 LEP will integrate DOE efforts to extend the service life of the warhead with DoD efforts to develop a guided Tail Kit Assembly (TKA) required to maintain current B61 mission characteristics. Programmatic integration of the Air Force-led, joint DoD-DOE program is accomplished through the B61 LEP Project Officers Group (POG) and its subgroups. In accordance with Air Force Materiel Command mission assignment memo (dated 17 Feb 11) and National Nuclear Security Administration (NNSA)-Air Force Nuclear Weapons Center (AFNWC) Memorandum of Understanding (MOU dated 28 Jun 12), the USAF is responsible for development, acquisition and delivery of a guided TKA and All Up Round (AUR) technical integration, system qualification and fielding of the B61-12 variant on multiple platforms.

The TKA is now in full-rate production.

Funds may be used to address emerging and short-notice Diminishing Manufacturing Sources and Material Shortage (DMSMS) issues.

This program element may include necessary civilian pay expenses required to manage, execute, and deliver weapon system capability. The use of such programs funds would be in addition to the civilian pay expenses budgeted in program elements 0605827F, 0605828F, 0605829F, 0605831F, 0605832F, 0605833F, 0605898F, 0606398F. In FY21 \$0M was expended for civilian pay expenses in this program element, and in FY22 \$0M is forecasted for civilian pay expenses in this program element.

This program is in Budget Activity 5, System Development and Demonstration (SDD) because it has passed Milestone B approval and is conducting engineering and manufacturing development tasks aimed at meeting validated requirements prior to full rate production.

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| B. Program Change Summary (\$ in Millions) | FY 2021 | FY 2022 | FY 2023 Base | FY 2023 OCO | FY 2023 Total |
|---|----------------|----------------|---------------------|--------------------|----------------------|
| Previous President's Budget | 9.665 | 0.000 | 0.000 | 0.000 | 0.000 |
| Current President's Budget | 9.595 | 0.000 | 0.000 | 0.000 | 0.000 |
| Total Adjustments | -0.070 | 0.000 | 0.000 | 0.000 | 0.000 |
| • Congressional General Reductions | 0.000 | 0.000 | | | |
| • Congressional Directed Reductions | 0.000 | 0.000 | | | |
| • 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 | -0.070 | 0.000 | | | |
| • Other Adjustments | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |

Change Summary Explanation

The FY 2022 President's Budget submittal did not reflect FY 2023 through FY 2026 funding. Therefore, an explanation of the change between the two budget positions for FY2023 cannot be made in a relevant manner.

| C. Accomplishments/Planned Programs (\$ in Millions) | FY 2021 | FY 2022 | FY 2023 |
|---|----------------|----------------|----------------|
|---|----------------|----------------|----------------|

| | | | |
|--|-------|-------|-------|
| Title: Engineering & Manufacturing Development Contract (B61) | 0.000 | 0.000 | 0.000 |
|--|-------|-------|-------|

Description: Funding will be used for the prime contract to develop, test, integrate and nuclear certify a guided TKA in support of the B61-12 LEP.

FY 2022 Plans:

N/A

FY 2023 Plans:

N/A

FY 2022 to FY 2023 Increase/Decrease Statement:

N/A

| | | | |
|---|-------|-------|-------|
| Title: AUR Technical Integration (B61) | 0.100 | 0.000 | 0.000 |
|---|-------|-------|-------|

Description: Funding will be used for all system engineering tasks in support of AUR technical integration, qualification & fielding, including program support to the B61 LEP POG.

FY 2022 Plans:

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| Exhibit R-2, RDT&E Budget Item Justification: PB 2023 Air Force | | Date: April 2022 | | |
| Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 5: System Development & Demonstration (SDD)</i> | | R-1 Program Element (Number/Name) PE 0101125F / <i>Nuclear Weapons Modernization</i> | | |
| C. Accomplishments/Planned Programs (\$ in Millions) | | FY 2021 | FY 2022 | FY 2023 |
| N/A | | | | |
| FY 2023 Plans: N/A | | | | |
| FY 2022 to FY 2023 Increase/Decrease Statement: N/A | | | | |
| Title: Aircraft Integration (B61) Description: Funding will be used for B61-12 activities associated with integration on threshold aircraft, including mission planning system upgrades to accommodate the new weapon variant. Also includes activities related to weapon design compatibility with both threshold and objective aircraft. | | 9.395 | 0.000 | 0.000 |
| FY 2022 Plans: N/A | | | | |
| FY 2023 Plans: N/A | | | | |
| FY 2022 to FY 2023 Increase/Decrease Statement: N/A | | | | |
| Title: Test Support (B61) Description: Funding will be used for test activities and support for TKA design validation & verification and nuclear certification, as well as B61-12 AUR system qualification (includes design and operational certification activities). | | 0.100 | 0.000 | 0.000 |
| FY 2022 Plans: N/A | | | | |
| FY 2023 Plans: N/A | | | | |
| FY 2022 to FY 2023 Increase/Decrease Statement: N/A | | | | |
| Accomplishments/Planned Programs Subtotals | | 9.595 | 0.000 | 0.000 |

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| Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 5: System Development & Demonstration (SDD)</i> | R-1 Program Element (Number/Name) PE 0101125F / <i>Nuclear Weapons Modernization</i> |
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D. Other Program Funding Summary (\$ in Millions)

| <u>Line Item</u> | <u>FY 2021</u> | <u>FY 2022</u> | <u>FY 2023</u> <u>Base</u> | <u>FY 2023</u> <u>OCO</u> | <u>FY 2023</u> <u>Total</u> | <u>FY 2024</u> | <u>FY 2025</u> | <u>FY 2026</u> | <u>FY 2027</u> | <u>Cost To</u> <u>Complete</u> | <u>Total Cost</u> |
|------------------------------|----------------|----------------|-------------------------------|------------------------------|--------------------------------|----------------|----------------|----------------|----------------|-----------------------------------|-------------------|
| • PAAF 01 354040: <i>B61</i> | 21.189 | 2.709 | 0.000 | - | 0.000 | 0.000 | - | - | - | 0.000 | 23.898 |

Remarks

The TKA is now in full-rate production.

E. Acquisition Strategy

The Milestone Decision Authority directed a three-fold competitive acquisition strategy at the 30 April 2012 Materiel Development Decision. 1) A single prime contractor was chosen to develop the B61-12 TKA through Engineering Manufacturing and Development (EMD) using full and open competition. EMD consisted of two phases; 2) the prime contractor to maintain competition at the subcomponent level; and 3) a sole-source contract awarded for production to the EMD contractor.

MS-C in 1QFY19 approved entry into Low Rate Initial Production/Lot 1 and the purchase of both long-lead items and life-of-type buys supporting Lot 2 Advanced Procurement for Full Rate Production.

The MDA approved entry into Full Rate Production on October 19, 2020.

B61-12 AUR integration, qualification and acceptance will be conducted through the joint DoD-DOE/NNSA Phase 6.X process and managed through the B61 LEP POG. Sandia National Laboratory will conduct the TKA/Bomb Assembly (BA) technical integration on behalf of the Air Force.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2023 Air Force **Date:** April 2022

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| Appropriation/Budget Activity 3600 / 5 | R-1 Program Element (Number/Name) PE 0101125F / Nuclear Weapons Modernization | Project (Number/Name) 657007 / B61 LIFE EXTENSION PROGRAM |
|--|---|---|

| Product Development (\$ in Millions) | | | | FY 2021 | | FY 2022 | | FY 2023 Base | | FY 2023 OCO | | FY 2023 Total | Cost To Complete | Total Cost | Target Value of Contract |
|---|------------------------|--------------------------------|-------------|---------|------------|---------|------------|--------------|------------|-------------|------------|---------------|------------------|------------|--------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Prior Years | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | | | |
| B61 LEP EMD Contracts | C/CPIF | Boeing : St Charles, MO | 325.470 | - | | - | | - | | - | | - | 0.000 | 325.470 | 325.470 |
| Subtotal | | | 325.470 | - | | - | | - | | - | | - | 0.000 | 325.470 | N/A |

Remarks
EMD Phase II Period of Performance ended June 2020.

| Support (\$ in Millions) | | | | FY 2021 | | FY 2022 | | FY 2023 Base | | FY 2023 OCO | | FY 2023 Total | Cost To Complete | Total Cost | Target Value of Contract |
|---------------------------------|------------------------|--------------------------------|-------------|---------|------------|---------|------------|--------------|------------|-------------|------------|---------------|------------------|------------|--------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Prior Years | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | | | |
| AUR Technical Integration | MIPR | Various : various | 72.002 | 0.100 | Apr 2021 | - | | - | | - | | - | 0.000 | 72.102 | - |
| Aircraft Integration | MIPR | Various : various | 186.090 | 0.215 | Apr 2021 | - | | - | | - | | - | 0.000 | 186.305 | - |
| Subtotal | | | 258.092 | 0.315 | | - | | - | | - | | - | 0.000 | 258.407 | N/A |

Remarks
FY21 AUR Technical Integration and Aircraft Integration cost aligns with program schedule and represents the last year of integration activities.

| Test and Evaluation (\$ in Millions) | | | | FY 2021 | | FY 2022 | | FY 2023 Base | | FY 2023 OCO | | FY 2023 Total | Cost To Complete | Total Cost | Target Value of Contract |
|---|------------------------|--------------------------------|-------------|---------|------------|---------|------------|--------------|------------|-------------|------------|---------------|------------------|------------|--------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Prior Years | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | | | |
| Test Support for B61 LEP Development | PO | 96 TW : Eglin, FL | 63.366 | 0.100 | Jun 2021 | - | | - | | - | | - | 0.000 | 63.466 | - |
| 526.1 Assets | MIPR | Various : Various | 8.207 | - | | - | | - | | - | | - | 0.000 | 8.207 | - |
| Subtotal | | | 71.573 | 0.100 | | - | | - | | - | | - | 0.000 | 71.673 | N/A |

Remarks
FY21 represents the last year of test activities.

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|--|---|---|

| Management Services (\$ in Millions) | | | | FY 2021 | | FY 2022 | | FY 2023 Base | | FY 2023 OCO | | FY 2023 Total | Cost To Complete | Total Cost | Target Value of Contract |
|---|------------------------|--------------------------------|-------------|---------|------------|---------|------------|--------------|------------|-------------|------------|---------------|------------------|------------|--------------------------|
| Cost Category Item | Contract Method & Type | Performing Activity & Location | Prior Years | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | Award Date | Cost | | | |
| PMA | Various | various : various | 55.271 | 9.180 | Mar 2021 | - | | - | | - | | - | 0.000 | 64.451 | - |
| Subtotal | | | 55.271 | 9.180 | | - | | - | | - | | - | 0.000 | 64.451 | N/A |

Remarks
FY21 funds support AFNWC Nuclear Surety requirement.

| | Prior Years | FY 2021 | FY 2022 | FY 2023 Base | FY 2023 OCO | FY 2023 Total | Cost To Complete | Total Cost | Target Value of Contract |
|----------------------------|-------------|---------|---------|--------------|-------------|---------------|------------------|------------|--------------------------|
| Project Cost Totals | 710.406 | 9.595 | - | - | - | - | 0.000 | 720.001 | N/A |

Remarks

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| Exhibit R-4, RDT&E Schedule Profile: PB 2023 Air Force | | Date: April 2022 |
| Appropriation/Budget Activity 3600 / 5 | R-1 Program Element (Number/Name) PE 0101125F / Nuclear Weapons Modernization | Project (Number/Name) 657007 / B61 LIFE EXTENSION PROGRAM |

| FY 2021 | | | | FY 2022 | | | | FY 2023 | | | | FY 2024 | | | | FY 2025 | | | | FY 2026 | | | | FY 2027 | | | |
|---------|---|---|---|---------|---|---|---|---------|---|---|---|---------|---|---|---|---------|---|---|---|---------|---|---|---|---------|---|---|---|
| 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 |

| | |
|-----------------------------------|--|
| B61 LIFE EXTENSION PROGRAM | |
| Aircraft Integration | ██████████ |
| Production Phase | ██ |

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| Exhibit R-4A, RDT&E Schedule Details: PB 2023 Air Force | | Date: April 2022 |
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Schedule Details

| Events by Sub Project | Start | | End | |
|--|---------|------|---------|------|
| | Quarter | Year | Quarter | Year |
| <i>B61 LIFE EXTENSION PROGRAM</i> | | | | |
| Aircraft Integration | 1 | 2021 | 4 | 2021 |
| Production Phase | 1 | 2021 | 1 | 2023 |

Note
The TKA is now in full-rate production.