

UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification: PB 2025 Air Force **Date:** March 2024

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| Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 7: Operational Systems Development</i> | R-1 Program Element (Number/Name) PE 0102417F / <i>Over-the-Horizon Backscatter Radar</i> |
|--|---|

| COST (\$ in Millions) | Prior Years | FY 2023 | FY 2024 | FY 2025 Base | FY 2025 OCO | FY 2025 Total | FY 2026 | FY 2027 | FY 2028 | FY 2029 | Cost To Complete | Total Cost |
|-----------------------------------|-------------|---------|---------|--------------|-------------|---------------|---------|---------|---------|---------|------------------|------------|
| Total Program Element | - | 4.400 | 428.754 | 383.575 | 0.000 | 383.575 | 74.101 | 27.269 | 33.040 | 33.692 | 0.000 | 984.831 |
| 674592: <i>HLD - OTHR</i> | - | 0.000 | 423.643 | 371.751 | 0.000 | 371.751 | 74.101 | 27.269 | 33.040 | 33.692 | 0.000 | 963.496 |
| 674865: <i>TACMOR Development</i> | - | 4.400 | 5.111 | 11.824 | 0.000 | 11.824 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 21.335 |

A. Mission Description and Budget Item Justification

In FY 2024, PE 0102412F North Warning System (NWS) HLD-OTHR funds were realigned to PE 0102417F Over-the-Horizon Backscatter Radar to report all Department of the Air Force OTHR efforts in one R-1 line.

Efforts funded in this PE focus on development, testing, and fielding, of a long-range early detection capability for airborne and surface targets of interest. Each line of effort acquires and fields a land based, high-frequency (HF) ionospheric backscatter radar for over the horizon detection and tracking of airborne and surface targets over wide geographic areas. Fielding of this capability will enable detection, tracking and reporting of airborne and surface targets that may be obscured from conventional line of sight radar systems by the curvature of the earth. Specific lines of effort funded include, but are not limited to, Tactical Multi-Mission Over the Horizon Radar (TACMOR), Homeland Defense Over the Horizon Radar (HLD-OTHR) and support for a classified EUCOM requirement.

TACMOR capability is being developed for employment in the Republic of Palau (RoP) to provide enhanced Air Domain Awareness in the USINDOPACOM area of responsibility. TACMOR will be located in the RoP and operated by the United States in agreement with the RoP. Development, test and evaluation, and acquisition of the system and associated components will provide warfighters with the capability to close gaps in surveillance coverage in key regions of the Pacific area of interest to the United States and its Allies. The total cost of the TACMOR Middle Tier of Acquisition effort is 243.4 million, including RDT&E and procurement of prototype units. TACMOR is not fully funded across the Future Years Defense Program. The Department of the Air Force is assessing all options to address the funding shortfalls for MTA programs including additional funding in a future budget request, performance trades based on technical maturity, or transition to alternative pathways.

HLD-OTHR efforts focus on the development, testing, and fielding of capabilities to extend current NWS surveillance of long-range early warning for North America in response to emerging threats. The primary mission of the new HLD-OTHR systems will be to provide long-range sensor coverage of potential air and cruise missile threats to North America, with secondary and tertiary capability against complex targets of interest (i.e, High Altitude Balloons) and maritime surface vessels and additional tasking as required. The system will be comprised of four OTHR systems and an Operational Control Center. HLD-OTHR data will be distributed and integrated into existing air, missile and maritime defense early warning networks, as applicable. This project will continue to focus investments to enhance capability for the Air and Cruise Missile Defense of the Homeland mission.

The FY 2025 funding request was reduced by \$1.647 million to account for the availability of prior year execution balances.

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| Appropriation/Budget Activity 3600: <i>Research, Development, Test & Evaluation, Air Force I BA 7: Operational Systems Development</i> | R-1 Program Element (Number/Name) PE 0102417F / <i>Over-the-Horizon Backscatter Radar</i> |
|--|---|

This program element may include necessary civilian pay expenses required to manage, execute, and deliver weapon system capability. The use of such program funds would be in addition to the civilian pay expenses budgeted in PE 0605827F, 0605828F, 0605829F, 0605831F, 0605832F, 0605833F, 0605898F, 0606398F. In FY2023, \$4.2M was expended for civilian pay expenses in this program element, and in FY2024, \$4.3M is forecasted for civilian pay expenses in this program element.

This program is in Budget Activity 7, Operational System Development because this budget activity includes development efforts to upgrade systems that have been fielded or have received approval for full rate production and anticipate production funding in the current or subsequent fiscal year

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| B. Program Change Summary (\$ in Millions) | FY 2023 | FY 2024 | FY 2025 Base | FY 2025 OCO | FY 2025 Total |
|---|----------------|----------------|---------------------|--------------------|----------------------|
| Previous President's Budget | 12.210 | 428.754 | 74.056 | 0.000 | 74.056 |
| Current President's Budget | 4.400 | 428.754 | 383.575 | 0.000 | 383.575 |
| Total Adjustments | -7.810 | 0.000 | 309.519 | 0.000 | 309.519 |
| • 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 | -7.810 | 0.000 | | | |
| • SBIR/STTR Transfer | 0.000 | 0.000 | | | |
| • Other Adjustments | 0.000 | 0.000 | 309.519 | 0.000 | 309.519 |

Change Summary Explanation

BPAC TACMOR Development provided \$7.810 million in FY23 as an Omnibus Reprogramming source.

Air Force internally realigned HLD OTHR \$309.519M of Procurement and MILCON funding in FY25 to RDT&E to support the acquisition strategy.

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Exhibit R-2A, RDT&E Project Justification: PB 2025 Air Force **Date:** March 2024

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| Appropriation/Budget Activity 3600 / 7 | R-1 Program Element (Number/Name) PE 0102417F / <i>Over-the-Horizon Backscatter Radar</i> | Project (Number/Name) 674592 / <i>HLD - OTHR</i> |
|--|---|--|

| COST (\$ in Millions) | Prior Years | FY 2023 | FY 2024 | FY 2025 Base | FY 2025 OCO | FY 2025 Total | FY 2026 | FY 2027 | FY 2028 | FY 2029 | Cost To Complete | Total Cost |
|----------------------------|-------------|---------|---------|--------------|-------------|---------------|---------|---------|---------|---------|------------------|------------|
| 674592: <i>HLD - OTHR</i> | - | 0.000 | 423.643 | 371.751 | 0.000 | 371.751 | 74.101 | 27.269 | 33.040 | 33.692 | 0.000 | 963.496 |
| Quantity of RDT&E Articles | - | - | - | - | - | - | - | - | - | - | | |

Note

Cost to complete for HLD - OTHR still in review. A draft Service Cost Position is developed but not finalized for the first increment to develop two radars, plus the operational control center. SAF/AQ intent is to establish the program baseline in Q3FY24 and will deliver the Selected Acquisition Report to Congress with cost to complete at that time.

A. Mission Description and Budget Item Justification

HLD-OTHR efforts focus on the development of a capability to extend current NWS surveillance to long range early warning for North America in response to emerging threats. The program will design, develop, test and field advanced 6th generation OTHR systems operating at levels of transmit power and receiver sensitivity far exceeding current OTHR systems in operation. Program activities include C2 interface design and integration, HF sensor and digital receiver technology advancement, ionospheric characterization research, remote sensor management capability development, and sensor data fusion research. HLD-OTHR data will be distributed and integrated into existing integrated air and missile defense (IAMD) early warning networks, to include the emerging DAF Battle Network and Cloud Based C2 architectures as applicable. Funds were added in FY24 to evaluate and develop improvements to the OTHR sensors tracking algorithms to increase probability of detection of high-altitude air vehicles such as stratospheric balloons and other unidentified aerial phenomena. Fielding involves land-based installation of Transmit and Receive site arrays for bi-static operations. Transmit sites require 140 acres of land and consist of vertical antennas in an array. Receive sites require 1350 acres of land and will consist of a 7-row, 2-dimensional antenna array. Additional development will include the establishment of an Operational Control Center (OCC) and associated Command and Control Battle Management capability to enable the dissemination of track data and other targets of interest for Air and Cruise Missile Defense of the Homeland (ACMD-H) air domain awareness requirements.

Program Element will also be utilized to fund any emerging or urgent joint operational OTHR needs as required.

This program element may include necessary civilian pay expenses required to manage, execute, and deliver weapon system capability. The use of such program funds would be in addition to the civilian pay expenses budgeted in program element 0605827F, 0605828F, 0605829F, 0605831F, 0605832F, 0605833F, 0605898F, 0606398F. In FY24 \$4.2M was expended for civilian pay expenses in this program element, and in FY25 \$4.3M is forecasted for civilian pay expenses in this program element.

This program is in Budget Activity 7, Operational System Development because this budget activity includes development efforts to upgrade systems that have been fielded or have received approval for full rate production and anticipate production funding in the current or subsequent fiscal year.

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

| B. Accomplishments/Planned Programs (\$ in Millions) | FY 2023 | FY 2024 | FY 2025 |
|---|---------|---------|---------|
| Title: Homeland Defense OTHR Development | 0.000 | 423.643 | 371.751 |

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| Exhibit R-2A, RDT&E Project Justification: PB 2025 Air Force | | Date: March 2024 |
| Appropriation/Budget Activity 3600 / 7 | R-1 Program Element (Number/Name) PE 0102417F / <i>Over-the-Horizon Backscatter Radar</i> | Project (Number/Name) 674592 / <i>HLD - OTHR</i> |

| B. Accomplishments/Planned Programs (\$ in Millions) | FY 2023 | FY 2024 | FY 2025 |
|---|----------------|----------------|----------------|
| <p>Description: HLD-OTHR development focuses on radar system design, development, manufacture and acquisition of hardware and software for the Transmit and Receive Sites. The program will deliver a US variant of an existing Australian system for NORAD/NORTHCOM use in the northern ionosphere environment. Development of modeling and simulation tools, studies, and analyses to inform systems engineering, early developmental test activities. Modeling will validate key performance characteristics and metrics unique to each site's interaction with HF radar and the ionosphere. In addition, execution of risk reduction efforts for the development of advanced radar receivers as well as system integration design into the IAMD battle control system enterprise will be used to develop system requirements and technical specifications to inform Command and Control and Operation Control Center system acquisition.</p> <p>FY 2024 Plans:</p> <ul style="list-style-type: none"> - Expanding site specific electromagnetic interference and ionospheric characterization work as access to additional land becomes available. -Initiating OTHR track data software interface and integration activities into existing Battle Control Centers/C2 nodes - Continuing the development, manufacture, and acquisition of Rx & Tx antennas, associated infrastructure, and material components necessary to support initial developmental testing as sites becomes available -Continuing advanced digital receiver signal processing development <p>FY 2025 Plans:</p> <ul style="list-style-type: none"> -Will continue site-specific electromagnetic interference and ionospheric characterization work and begin adjusting mission system software to incorporate site-specific characterization work. -Will continue OTHR track data software interface and integration activities into existing Battle Control Centers/C2 nodes -Will continue manufacturing and acquisition of Rx & Tx antennas, radar subcomponents, associated infrastructure, and material components necessary to support initial installation and developmental testing as sites becomes available -Will begin installation of System 1 & 2 sounder and transponder subsystems -Will begin collecting northern ionosphere data for analyses, ionospheric model development, and tailoring of mission system software for US operational locations -Will begin C2 subsystem software development — adaptation of existing software baseline for US-specific mission -Will begin system development and build of main sub-systems and components by the manufacturer -Will begin sub-system and component test and checkout prior to ship and install at radar sites <p>FY 2024 to FY 2025 Increase/Decrease Statement: FY25 decrease aligns with fewer components to acquire and develop for increment 1 of the program.</p> | | | |
| Accomplishments/Planned Programs Subtotals | 0.000 | 423.643 | 371.751 |

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

| Line Item | FY 2023 | FY 2024 | FY 2025 | FY 2025 | FY 2025 | FY 2026 | FY 2027 | FY 2028 | FY 2029 | Cost To | Total Cost |
|---|---------|---------|---------|---------|---------|---------|---------|---------|---------|------------|------------|
| | | | Base | OCO | Total | | | | | Complete | |
| • OPAF 03 0102417F: <i>Over-the-Horizon Backscatter</i> | 0.000 | 55.198 | 0.000 | - | 0.000 | 104.222 | - | - | - | Continuing | Continuing |

Remarks

D. Acquisition Strategy

HLD-OTHR is executed by PEO Digital. The program is anticipated to be a pre-Milestone C, Major Capability Acquisition implementing an evolutionary capability development approach. It will be executed in three increments delivering a total of four radar systems and an operations control center (OCC). Increment 1 will deliver a single radar system with a 1-dimensional (1D) receive (Rx) array to provide Early Operational Capability 1 (EOC 1). Increment 2 will scale the System 1 Rx array to 2D, deliver System 2 with a 2D Rx array, and deliver the OCC to provide EOC 2. Systems 1 & 2 delivery is anticipated to be executed through a Government to Government (G2G) Australian Military Sales (AMS) arrangement under current international (binational) agreements. Increment 3 will deliver Systems 3 & 4 under a follow-on acquisition strategy based on the outputs of the ACMD-H Analysis of Alternatives.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2025 Air Force **Date:** March 2024

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| Product Development (\$ in Millions) | | | | FY 2023 | | FY 2024 | | FY 2025 Base | | FY 2025 OCO | | FY 2025 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 | | | |
| Manufacture and acquisition of hardware components for HLD-OTHR Transmit and Receive sites. | TBD | AFLCMC/HBD : Hanscom, AFB, MA | - | - | | 360.143 | Jan 2024 | 307.249 | Jan 2025 | - | | 307.249 | Continuing | Continuing | - |
| Modeling/Simulation and ionospheric characterization activities. | TBD | AFLCMC/HBD : Hanscom, AFB, MA | - | - | | 15.500 | Jan 2024 | 10.100 | Jan 2025 | - | | 10.100 | Continuing | Continuing | - |
| Operational Control Center development and Battle Control Center Integration. | TBD | AFLCMC/HBD : Hanscom, AFB, MA | - | - | | 22.000 | Jan 2024 | 34.140 | Jan 2025 | - | | 34.140 | Continuing | Continuing | - |
| Not specified. | C/CPAF | Not specified. : TBD | - | - | | - | | - | | - | | - | Continuing | Continuing | - |
| Subtotal | | | - | - | | 397.643 | | 351.489 | | - | | 351.489 | Continuing | Continuing | N/A |

| Support (\$ in Millions) | | | | FY 2023 | | FY 2024 | | FY 2025 Base | | FY 2025 OCO | | FY 2025 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 | | | |
| Travel | Various | AFLCMC/HBD : Hanscom, AFB, MA | - | - | | 2.000 | Nov 2023 | 1.962 | Nov 2024 | - | | 1.962 | Continuing | Continuing | - |
| Subtotal | | | - | - | | 2.000 | | 1.962 | | - | | 1.962 | Continuing | Continuing | N/A |

| Test and Evaluation (\$ in Millions) | | | | FY 2023 | | FY 2024 | | FY 2025 Base | | FY 2025 OCO | | FY 2025 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 | | | |
| Integration, Validation and Verification | TBD | AFLCMC/HBD : Hanscom, AFB, MA | - | - | | 10.000 | May 2024 | - | | - | | - | Continuing | Continuing | - |
| Test Support 46th TS | C/CPAF | Not specified. : TBD | - | - | | - | | 2.800 | Feb 2025 | - | | 2.800 | Continuing | Continuing | - |
| Subtotal | | | - | - | | 10.000 | | 2.800 | | - | | 2.800 | Continuing | Continuing | N/A |

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| Exhibit R-4, RDT&E Schedule Profile: PB 2025 Air Force | | Date: March 2024 |
| Appropriation/Budget Activity 3600 / 7 | R-1 Program Element (Number/Name) PE 0102417F / <i>Over-the-Horizon Backscatter Radar</i> | Project (Number/Name) 674592 / <i>HLD - OTHR</i> |

| | FY 2023 | | | | FY 2024 | | | | FY 2025 | | | | FY 2026 | | | | FY 2027 | | | | FY 2028 | | | | FY 2029 | | | |
|--|---------|---|---|---|---------|---|---|---|---------|---|---|---|---------|---|---|---|---------|---|---|---|---------|---|---|---|---------|---|---|---|
| | 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 |
| HLD OTHR | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Increment 1 & 2 - Requirements developments and system performance specification validation | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Radar Rx risk-reduction design and technology advancement efforts | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Increment 3 - Requirements developments and system performance specification validation | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Model Based Systems Engineering Siting, ionospheric, modeling & simulation analyses | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Component and material purchases, prototype antenna fabrication, and delivery (sites 1 & 2) | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Factory assembly and checkout of Radar subsystems by integrator | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Battle Control System integration-interface design, build, and test | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Radar 1 Initial installation (transmit array, 1d receive array, and associated support subsystems) | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Radar 1 Test and Evaluation | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Radar 1 2d receive array installation (additional rows) | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Radar 2 - Initial installation (transmit array, 1d receive array, and associated support subsystems) | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Radar 2 Test and Evaluation | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

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Exhibit R-4, RDT&E Schedule Profile: PB 2025 Air Force **Date:** March 2024

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|--|---|--|

| | FY 2023 | | | | FY 2024 | | | | FY 2025 | | | | FY 2026 | | | | FY 2027 | | | | FY 2028 | | | | FY 2029 | | | |
|---|------------|---|---|---|---------|---|---|---|---------|---|---|---|---------|---|---|---|---------|---|---|---|---------|---|---|---|---------|---|---|---|
| | 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 |
| Radar site 2 - 2d receive array installation (additional rows) | [REDACTED] | | | | | | | | | | | | | | | | | | | | | | | | | | | |

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| Exhibit R-4A, RDT&E Schedule Details: PB 2025 Air Force | | Date: March 2024 |
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Schedule Details

| Events by Sub Project | Start | | End | |
|--|---------|------|---------|------|
| | Quarter | Year | Quarter | Year |
| <i>HLD OTHR</i> | | | | |
| Increment 1 & 2 - Requirements developments and system performance specification validation | 1 | 2023 | 1 | 2025 |
| Radar Rx risk-reduction design and technology advancement efforts | 3 | 2023 | 1 | 2025 |
| Increment 3 - Requirements developments and system performance specification validation | 2 | 2024 | 4 | 2025 |
| Model Based Systems Engineering Siting, ionospheric, modeling & simulation analyses | 1 | 2023 | 4 | 2025 |
| Component and material purchases, prototype antenna fabrication, and delivery (sites 1 & 2) | 1 | 2024 | 1 | 2026 |
| Factory assembly and checkout of Radar subsystems by integrator | 1 | 2025 | 4 | 2026 |
| Battle Control System integration-interface design, build, and test | 1 | 2023 | 4 | 2026 |
| Radar 1 Initial installation (transmit array, 1d receive array, and associated support subsystems) | 1 | 2026 | 2 | 2028 |
| Radar 1 Test and Evaluation | 1 | 2028 | 4 | 2029 |
| Radar 1 2d receive array installation (additional rows) | 4 | 2028 | 4 | 2029 |
| Radar 2 - Initial installation (transmit array, 1d receive array, and associated support subsystems) | 3 | 2026 | 4 | 2028 |
| Radar 2 Test and Evaluation | 3 | 2028 | 4 | 2029 |
| Radar site 2 - 2d receive array installation (additional rows) | 1 | 2029 | 4 | 2029 |

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| COST (\$ in Millions) | Prior Years | FY 2023 | FY 2024 | FY 2025 Base | FY 2025 OCO | FY 2025 Total | FY 2026 | FY 2027 | FY 2028 | FY 2029 | Cost To Complete | Total Cost |
|-----------------------------------|-------------|---------|---------|--------------|-------------|---------------|---------|---------|---------|---------|------------------|------------|
| 674865: <i>TACMOR Development</i> | - | 4.400 | 5.111 | 11.824 | 0.000 | 11.824 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 21.335 |
| Quantity of RDT&E Articles | - | - | - | - | - | - | - | - | - | - | - | - |

A. Mission Description and Budget Item Justification

TACMOR capability is being developed for employment in the Republic of Palau to provide enhanced Air Domain Awareness in the USINDOPACOM area of responsibility. TACMOR will be operated by the United States and located in the Republic of Palau, with the agreement of the government of Palau. Development, test and evaluation, and acquisition of the system and associated components will provide warfighters with the capability to close gaps in surveillance coverage in key regions of the Pacific area of interest to the United States and our Allies.

TACMOR radar system development, integration and test activities are delayed under the current funding profile. TACMOR efforts funded in this Program Element will include but are not limited to: A Transmit site consisting of fourteen elements and high-power amplifiers transmitting High Frequency [HF] Skywave Over-The-Horizon Radar [OTHR] waveforms. The transmit site will also consists of a HF vertical sounder antenna and a HF backscatter sounder providing ionosphere environmental information for optimizing frequency selection. Also includes a Receive site consisting of 128 dual-monopole antenna elements receiving the over-the-horizon reflected energy from the transmit site. The receive site also contains the secure facilities for signal processing of the received data and real-time target extraction information.

This effort will also fund the communications infrastructure necessary to enable the data flow from the Transmit and Receive sites to an off-site operations control center. The operations control center plans and executes missions in support of the Combatant Command [CCMD] and provides real-time, target tracking information to all-source information fusion and dissemination systems. TACMOR data will also be accessible to and exploited by the National Air and Space Intelligence Center [NASIC] for detailed, post-event analysis.

This program element may include necessary civilian pay expenses required to manage, execute, and deliver weapon system capability. The use of such program funds would be in addition to the civilian pay expenses budgeted in program element 0605827F, 0605828F, 0605829F, 0605831F, 0605832F, 0605833F, 0605898F, 0606398F. In FY2024 \$0 was expended for civilian pay expenses in this program element, and in FY2025 \$0 is forecasted for civilian pay expenses in this program element.

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

| | FY 2023 | FY 2024 | FY 2025 |
|---|---------|---------|---------|
| Title: TACMOR Development | 4.400 | 5.111 | 11.824 |
| Description: Will establish initial TACMOR prototype transition and development activities necessary to accept post production readiness system components and sub-components. Program re-phased to align with military construction schedule and site availability. | | | |
| FY 2024 Plans: | | | |

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| B. Accomplishments/Planned Programs (\$ in Millions) | FY 2023 | FY 2024 | FY 2025 |
|--|----------------|----------------|----------------|
| <ul style="list-style-type: none"> - Completing development of a System Integration Lab [SIL] capability to allow for early test and integration of TACMOR unique hardware and software to run in a maintenance environment. Allows for initial training of TACMOR maintainers to gain familiarity with the major systems and subsystem components. - Begin integrating the Wideband Communications Architecture in the SIL environment to test, evaluate and verify the Primary, Alternate, Contingency, and Emergency communications architecture prior to fielding - Continue development and installation of communication infrastructure in support of offsite data transmission and dissemination. This includes associated authority to operate and cyber hardening. - Begin development of initial operations training material in support of Initial Operational Test and Evaluation [IOT&E] process <p><i>FY 2025 Plans:</i></p> <ul style="list-style-type: none"> - Will establish initial contract for prototype development of the radar system and sub-system components - Will deliver network services (terrestrial and SATCOM backup) infrastructure including management, on-island communications, off-island communications, and an integration facility to be used to ensure consistent interfaces and end-to-end service delivery is available once the radar is in place. <p><i>FY 2024 to FY 2025 Increase/Decrease Statement:</i></p> <ul style="list-style-type: none"> - Restored funding decremented for prior year poor execution based on the project rephasing. | | | |
| Accomplishments/Planned Programs Subtotals | 4.400 | 5.111 | 11.824 |

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

N/A

Remarks

D. Acquisition Strategy

TACMOR will be executed out of the PEO Digital. For contracting efforts, the program will seek approval for rapid prototyping Middle Tier Acquisition to transition the Joint Concept Technology Demonstration to a program of record.

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| Exhibit R-3, RDT&E Project Cost Analysis: PB 2025 Air Force | | | | | | | | | | | | Date: March 2024 | | | |
|--|------------------------|--------------------------------|-------------|--|------------|---------|------------|-----------------------------|------------|-------------|------------|------------------|------------------|------------|--------------------------|
| Appropriation/Budget Activity | | | | R-1 Program Element (Number/Name) | | | | Project (Number/Name) | | | | | | | |
| 3600 / 7 | | | | PE 0102417F / Over-the-Horizon Backscatterer Radar | | | | 674865 / TACMOR Development | | | | | | | |
| Product Development (\$ in Millions) | | | | FY 2023 | | FY 2024 | | FY 2025 Base | | FY 2025 OCO | | FY 2025 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 |
| Support to JEON EC-0020 (see Remarks below) | TBD | AFLCMC/HBG : Robins, AFB, GA | - | 4.400 | Feb 2024 | - | | - | | - | | - | Continuing | Continuing | - |
| Component and material purchases, prototype antenna fabrication; Wide Area Communications network services | MIPR | AFLCMC/HBG : Robins, AFB, GA | - | - | | - | | 11.224 | Jan 2025 | - | | 11.224 | Continuing | Continuing | - |
| Initial Operations training material development; cyber security risk management frame work implementation | TBD | AFLCMC/HBG : Robins, AFB, GA | - | - | | 3.000 | Feb 2024 | - | | - | | - | Continuing | Continuing | - |
| Subtotal | | | - | 4.400 | | 3.000 | | 11.224 | | - | | 11.224 | Continuing | Continuing | N/A |
| Support (\$ in Millions) | | | | FY 2023 | | FY 2024 | | FY 2025 Base | | FY 2025 OCO | | FY 2025 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 |
| Travel | Various | AFLCMC/HBG : Robins, AFB, GA | - | 0.000 | Feb 2024 | 0.300 | Nov 2023 | 0.300 | Nov 2024 | - | | 0.300 | Continuing | Continuing | - |
| Subtotal | | | - | 0.000 | | 0.300 | | 0.300 | | - | | 0.300 | Continuing | Continuing | N/A |
| Test and Evaluation (\$ in Millions) | | | | FY 2023 | | FY 2024 | | FY 2025 Base | | FY 2025 OCO | | FY 2025 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 |
| Integration Validation and Verification | Various | AFLCMC/HBG : Robins, AFB, GA | - | 0.000 | Jan 2024 | 0.600 | Dec 2023 | - | | - | | - | Continuing | Continuing | - |
| Subtotal | | | - | 0.000 | | 0.600 | | - | | - | | - | Continuing | Continuing | N/A |

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2025 Air Force **Date:** March 2024

| | | |
|--|---|--|
| Appropriation/Budget Activity 3600 / 7 | R-1 Program Element (Number/Name) PE 0102417F / <i>Over-the-Horizon Backscatter Radar</i> | Project (Number/Name) 674865 / <i>TACMOR Development</i> |
|--|---|--|

| Management Services (\$ in Millions) | | | | FY 2023 | | FY 2024 | | FY 2025 Base | | FY 2025 OCO | | FY 2025 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 | | | |
| Systems Engineering and Program Office Management | Various | AFLCMC/HBG : Robins, AFB, GA | - | 0.000 | Feb 2024 | 1.211 | Nov 2023 | 0.300 | Nov 2024 | - | | 0.300 | Continuing | Continuing | - |
| Subtotal | | | - | 0.000 | | 1.211 | | 0.300 | | - | | 0.300 | Continuing | Continuing | N/A |

| | Prior Years | FY 2023 | FY 2024 | FY 2025 Base | FY 2025 OCO | FY 2025 Total | Cost To Complete | Total Cost | Target Value of Contract | |
|----------------------------|-------------|---------|---------|--------------|-------------|---------------|------------------|------------|--------------------------|-----|
| Project Cost Totals | | - | 4.400 | 5.111 | 11.824 | - | 11.824 | Continuing | Continuing | N/A |

Remarks
 The program is delayed due to MILCON land acquisition timelines making initial FY22 and FY23 funds early to need. The program offered \$7.8M FY23 funding for the FY23 Omnibus and \$4.4M as a source for funding JEON EC-0020.

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| Exhibit R-4, RDT&E Schedule Profile: PB 2025 Air Force | | Date: March 2024 |
| Appropriation/Budget Activity 3600 / 7 | R-1 Program Element (Number/Name) PE 0102417F / <i>Over-the-Horizon Backscatter Radar</i> | Project (Number/Name) 674865 / <i>TACMOR Development</i> |

| FY 2023 | | | | FY 2024 | | | | FY 2025 | | | | FY 2026 | | | | FY 2027 | | | | FY 2028 | | | | FY 2029 | | | |
|---------|---|---|---|---------|---|---|---|---------|---|---|---|---------|---|---|---|---------|---|---|---|---------|---|---|---|---------|---|---|---|
| 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>TACMOR Development</i> | |
| Communication infrastructure development | [REDACTED] |
| System Integration Lab development | [REDACTED] |
| Network services delivery, communication on/off-island communications | [REDACTED] |

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|--|---|--|
| Exhibit R-4A, RDT&E Schedule Details: PB 2025 Air Force | | Date: March 2024 |
| Appropriation/Budget Activity 3600 / 7 | R-1 Program Element (Number/Name) PE 0102417F / <i>Over-the-Horizon Backscatter Radar</i> | Project (Number/Name) 674865 / <i>TACMOR Development</i> |

Schedule Details

| Events by Sub Project | Start | | End | |
|---|---------|------|---------|------|
| | Quarter | Year | Quarter | Year |
| <i>TACMOR Development</i> | | | | |
| Communication infrastructure development | 1 | 2024 | 4 | 2025 |
| System Integration Lab development | 1 | 2024 | 4 | 2025 |
| Network services delivery, communication on/off-island communications | 1 | 2025 | 4 | 2026 |