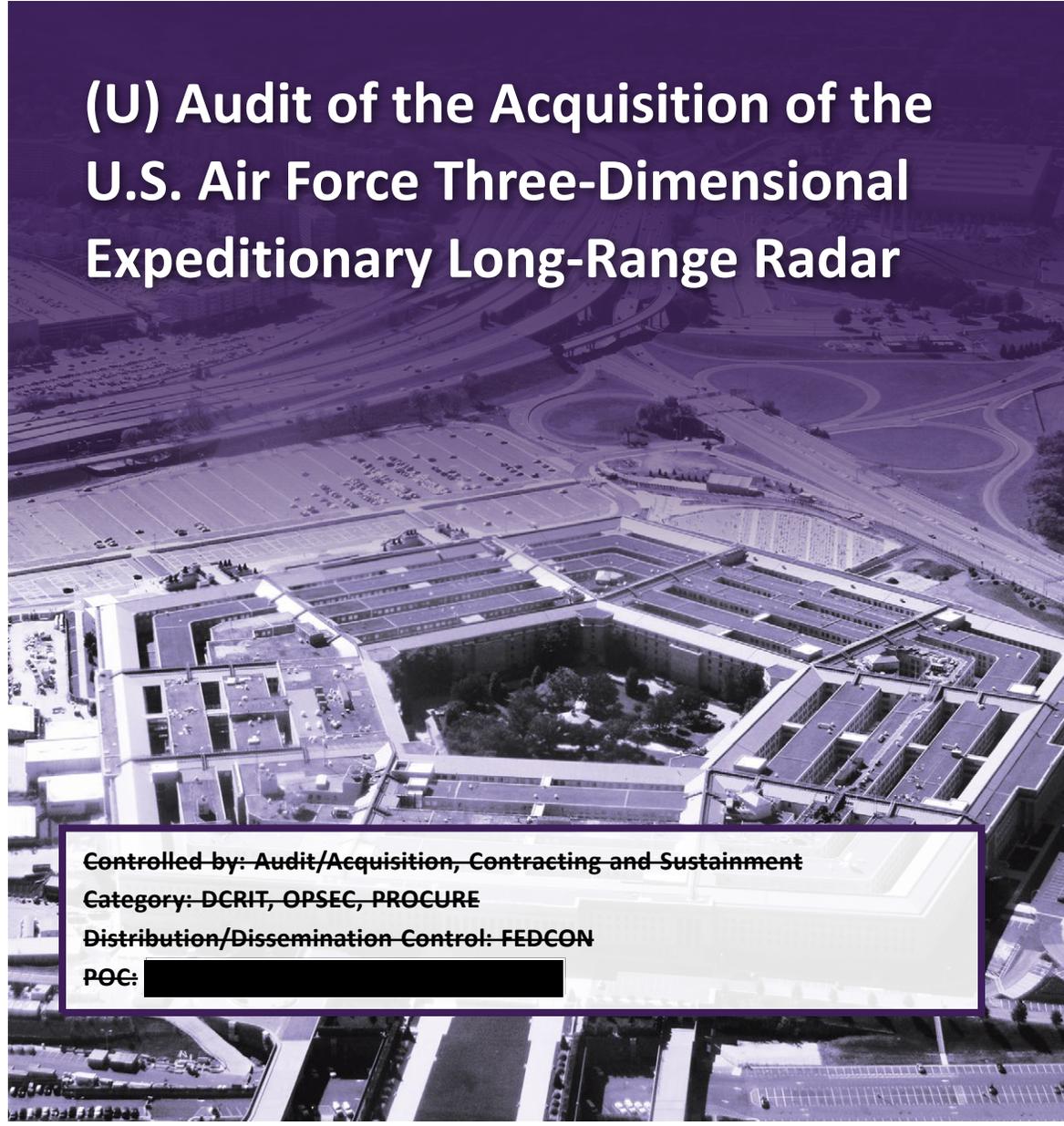


CUI

INSPECTOR GENERAL

U.S. Department of Defense

AUGUST 24, 2023



(U) Audit of the Acquisition of the U.S. Air Force Three-Dimensional Expeditionary Long-Range Radar

Controlled by: Audit/Acquisition, Contracting and Sustainment

Category: DCRIT, OPSEC, PROCURE

Distribution/Dissemination Control: FEDCON

POC: [REDACTED]

INTEGRITY ★ INDEPENDENCE ★ EXCELLENCE

CUI





(U) Results in Brief

(U) Audit of the Acquisition of the U.S. Air Force Three-Dimensional Expeditionary Long-Range Radar

August 24, 2023

(U) Objective

(U) We determined whether the Air Force effectively used the middle tier of acquisition (MTA) pathway for the prototyping and fielding of the Three-Dimensional Expeditionary Long-Range Radar (3DELRR) program.

(U) Background

(U) The MTA pathway is an adaptive acquisition framework, which is tailored specifically to technologies that are mature enough to be rapidly prototyped and fielded within 5 years of an MTA program start. The MTA pathway has two distinct paths—the rapid prototyping path and the rapid fielding path. The 3DELRR is a long-range, ground-based sensor for detecting, identifying, tracking, and reporting aerial targets for the Air Force. The Air Force planned to procure a total of 35 radar systems through FY 2028.

(U) Finding

(U) The Air Force did not effectively use the MTA pathway for prototyping and fielding the 3DELRR system. Specifically, the 3DELRR program office did not complete the exit criteria during the MTA rapid prototyping path before the program transitioned to the MTA rapid fielding path or plan to complete fielding all 35 systems within 5 years of the MTA rapid fielding path start date as required by DoD Instruction 5000.80.

(U) This occurred because the Air Force's interpretation of funding guidance was incorrect. Air Force officials stated that they believed the initial production units could not be purchased in the rapid prototyping

(U) Finding (cont'd)

(U) path using procurement funding. However, the DoD Financial Management Regulation authorizes the use of procurement funding. This misinterpretation led the 3DELRR program office to transition almost 3 years early to the rapid fielding path to use procurement funding. As a result, the 3DELRR program office planned to transition the 3DELRR program into a major capability acquisition early because it may not complete the rapid fielding path within the 5-year time limit. Additionally, this early transition may extend the time to develop needed capabilities that would benefit the warfighter.

(U) Recommendations

(U) We recommend that the Under Secretary of Defense for Acquisition and Sustainment consult with the Under Secretary of Defense (Comptroller)/Chief Financial Officer, DoD, to develop and implement guidance that establishes the appropriate funding source to purchase initial production units during the rapid prototyping and rapid fielding paths.

(U) We recommend that the Assistant Secretary of the Air Force (Acquisition, Technology, and Logistics) require the Air Force Program Executive Officer Digital to request a waiver to extend the rapid fielding path for the 3DELRR program to complete fielding in the MTA pathway, and require the 3DELRR program office to develop a plan to complete fielding the 3DELRR program in the rapid fielding path if a waiver is issued.

(U) Management Comments and Our Response

(U) The Director, Acquisition Data and Analytics, responding for the Under Secretary of Defense for Acquisition and Sustainment, disagreed with the recommendations. In addition, the Air Force had not responded to the recommendation. Therefore, we consider all three recommendations in this report unresolved and open. As a result of management comments, we redirected one recommendation and elevated another recommendation. We request additional comments on the unresolved recommendations within 30 days. Please see the Recommendations Table on the next page for the status of recommendations.

(U) Recommendations Table

(U) Management	Recommendations Unresolved	Recommendations Resolved	Recommendations Closed
The Under Secretary of Defense for Acquisition and Sustainment	1.	None	None
Assistant Secretary of the Air Force (Acquisition, Technology, and Logistics)	2.a and 2.b	None	None (U)

(U) Please provide Management Comments by September 25, 2023.

(U) Note: The following categories are used to describe agency management’s comments to individual recommendations:

- **(U) Unresolved** – Management has not agreed to implement the recommendation or has not proposed actions that will address the recommendation.
- **(U) Resolved** – Management agreed to implement the recommendation or has proposed actions that will address the underlying finding that generated the recommendation.
- **(U) Closed** – DoD OIG verified that the agreed upon corrective actions were implemented.



OFFICE OF INSPECTOR GENERAL
DEPARTMENT OF DEFENSE
4800 MARK CENTER DRIVE
ALEXANDRIA, VIRGINIA 22350-1500

August 24, 2023

MEMORANDUM FOR UNDER SECRETARY OF DEFENSE FOR ACQUISITION
AND SUSTAINMENT
AUDITOR GENERAL, DEPARTMENT OF THE AIR FORCE

SUBJECT: (U) Audit of the Acquisition of the U.S. Air Force Three-Dimensional Expeditionary Long-Range Radar (Report No. DODIG-2023-118)

(U) This final report provides the results of the DoD Office of Inspector General's audit. We previously provided copies of the draft report and requested written comments on the recommendations. We considered management's comments on the draft report when preparing the final report. These comments are included in the report.

(U) This report contains recommendations that are considered unresolved because the Director, Acquisition Data and Analytics, did not agree with the recommendations presented in the report, and the Air Force Program Executive Officer Digital did not provide a response to the report. We provided the draft report for comment on May 15, 2023, and as of the date of this report, the Air Force had not provided comments. Therefore, as discussed in the Recommendations, Management Comments, and Our Response section of this report, the recommendations remain open. We will track these recommendations until an agreement is reached on the actions that you will take to address the recommendations, and you have submitted adequate documentation showing that all agreed-upon actions are completed.

(U) DoD Instruction 7650.03 requires that recommendations be resolved promptly. Therefore, please provide us within 30 days your response concerning specific actions in process or alternative corrective actions proposed on the recommendations. Send your response to audclev@dodig.mil.

(U) We appreciate the cooperation and assistance received during the audit. If you have any questions, or would like to meet to discuss the audit, please contact me at [REDACTED]

FOR THE INSPECTOR GENERAL:

A handwritten signature in black ink, appearing to read "Carmen J. Malone".

Carmen J. Malone
Assistant Inspector General for Audit
Acquisition, Contracting, and Sustainment

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(U) Introduction

(U) Objective

(U) The objective of this audit was to determine whether the Air Force effectively used the middle tier of acquisition (MTA) pathway for the prototyping and fielding of the Three-Dimensional Expeditionary Long-Range Radar (3DELRR) program. See Appendix A for a discussion of the scope and methodology and prior audit coverage related to the audit objective.

(U) Background

(U) The MTA pathway is one of six acquisition pathways in the DoD's adaptive acquisition framework, which is tailored specifically to technologies that are mature enough to be rapidly prototyped and fielded within 5 years of an MTA program start.¹ The MTA pathway allows the DoD to move quickly on promising technologies that offer advantages if they are delivered faster. The MTA pathway has two distinct paths—the rapid prototyping path and the rapid fielding path.

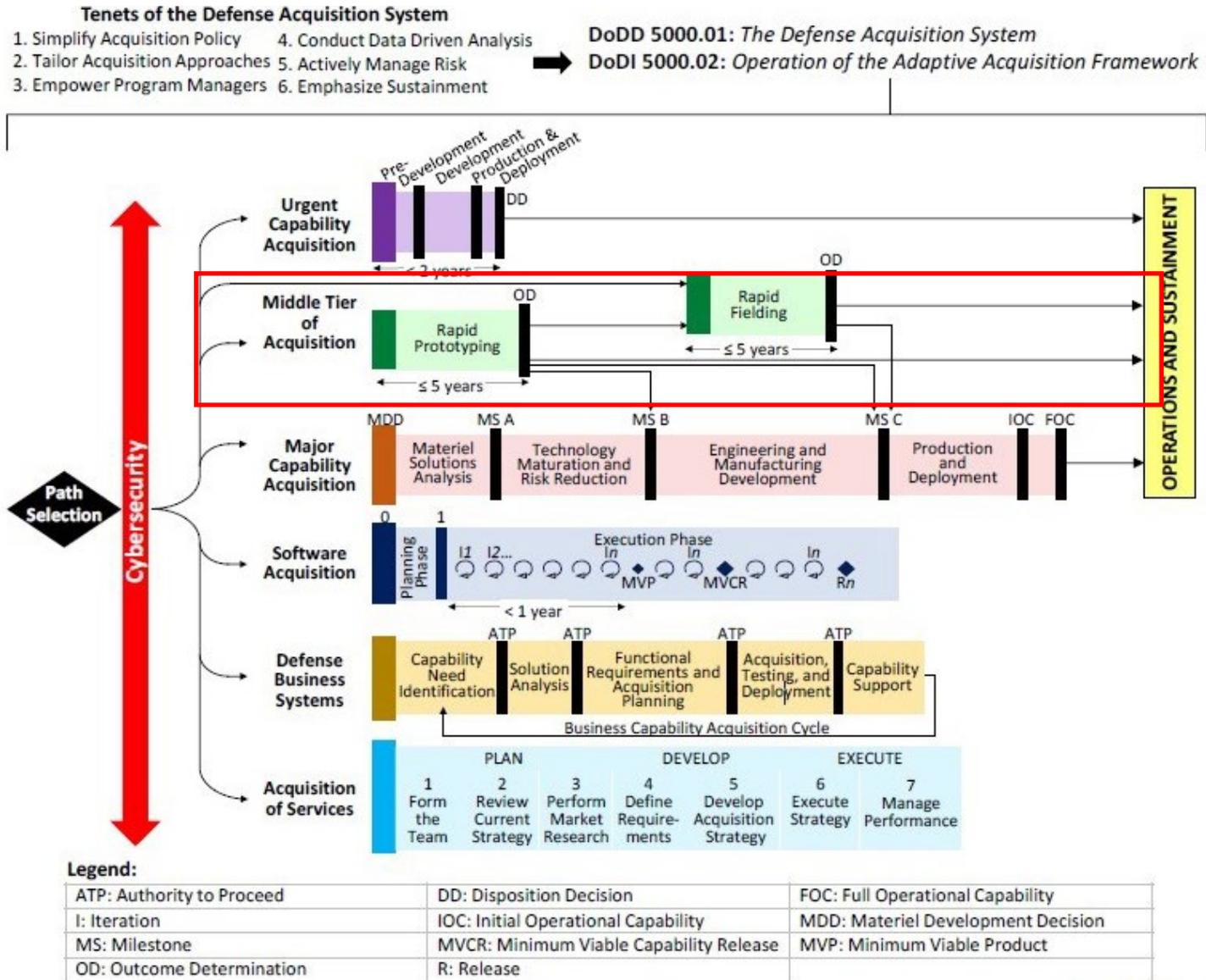
- (U) Rapid prototyping path – uses innovative technologies to rapidly develop prototypes to meet emerging military needs. The objective of an acquisition program under this path is to field a prototype meeting defined requirements that can be demonstrated in an operational environment and can provide an operational capability within 5 years of the rapid prototyping pathway start date.
- (U) Rapid fielding path – uses proven technologies to field production quantities of new or upgraded systems with minimal development required. The objective of an acquisition program under this path is to begin production within 6 months and complete fielding within 5 years of the rapid fielding pathway start date.

(U) A program manager can initiate an MTA program using either path. In addition, if the MTA program begins in the rapid prototyping path, the program manager can transition the program to a rapid fielding path, or once either path is completed, the MTA program can be absorbed into another adaptive acquisition framework pathway, such as a major capability acquisition (MCA). The MCA pathway typically follows a structured approach to support major defense acquisition programs, major systems, and other complex acquisitions. See Figure 1 for a flowchart of the adaptive acquisition framework.

¹ (U) The other five acquisition pathways are urgent capability acquisition, major capability acquisition, software acquisition, defense business systems, and acquisition of services. The DoD's adaptive acquisition framework allows program managers to tailor program strategies and oversight, phase content, the timing and scope of decision reviews, and decision levels based on the characteristics of the capability being acquired (including complexity, risk, and urgency) to satisfy user requirements.

(U) Figure 1. Adaptive Acquisition Framework Flowchart

(U)



December 2019

(U)

(U) Source: DoD Instruction 5000.80.

(U) MTA Roles and Responsibilities

(U) DoD Instruction 5000.80 establishes policy, assigns responsibilities, and prescribes procedures for the MTA pathway.² The DoD Instruction requires that programs entering one of the MTA paths validate the rationale for using the path and obtain approval from the decision authority to enter the path in an acquisition decision memorandum.³

(U) Programs that exceed the major defense acquisition program dollar threshold must request use of the MTA pathway from the MTA advisory board, which is chaired by the Under Secretary of Defense for Acquisition and Sustainment (USD[A&S]). The USD(A&S) determines when a program is not appropriate for the MTA pathway and may direct use of an alternate acquisition pathway. In addition, the USD(A&S) advises the decision authorities on MTA programs. The Deputy Assistant Secretary of Defense for Acquisition Enablers (DASD[AE]) is an organization within USD(A&S) and is responsible for providing oversight of and developing policy for the MTA pathway.

(U) DoD Components oversee their MTA programs through their Component Acquisition Executive (CAE) and program managers. CAEs serve as the decision authority for approved MTA programs and are responsible for developing funding strategies, unless otherwise delegated. Program managers are responsible for developing acquisition strategies, executing approved program plans, fielding capabilities, and reporting the program status to the CAE and USD(A&S).

(U) The Assistant Secretary of the Air Force (Acquisition, Technology, and Logistics) (SAF/AQ) serves as the Air Force CAE and was the decision authority for the 3DELRR program. On March 15, 2021, SAF/AQ delegated decision authority to the Air Force Program Executive Officer Digital. The 3DELRR program manager at Hanscom Air Force Base, Massachusetts, develops, tests, and manages the 3DELRR program.

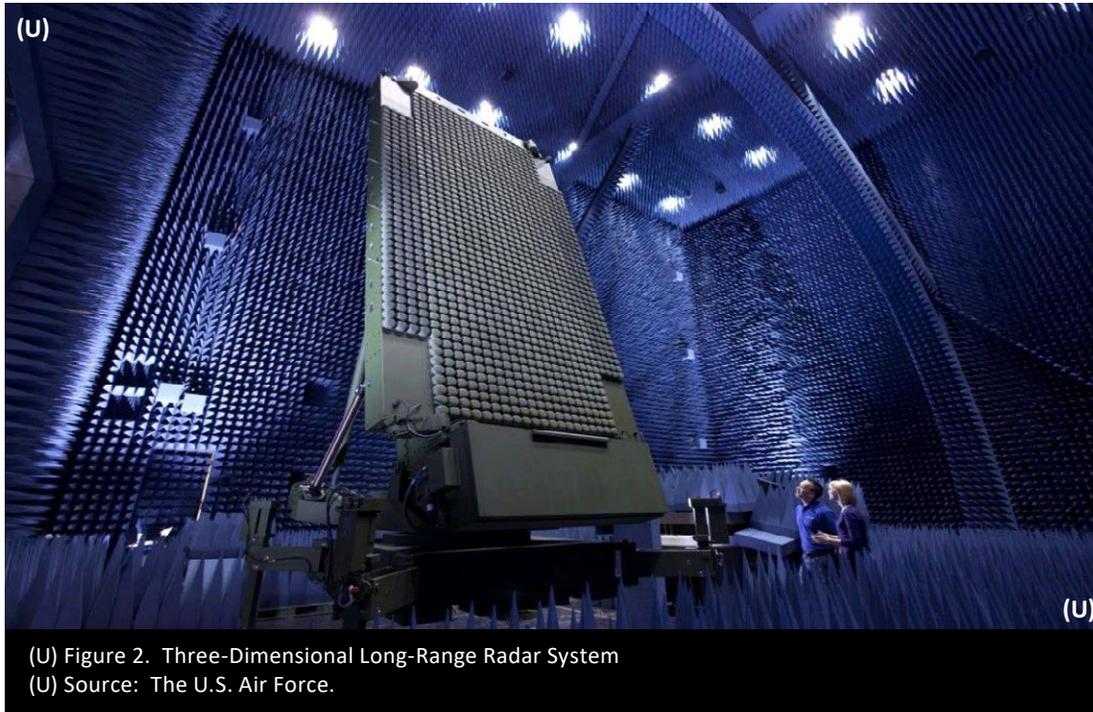
(U) Three-Dimensional Expeditionary Long-Range Radar

~~(CUI)~~ The 3DELRR is a long-range, ground-based sensor for detecting, identifying, tracking, and reporting aerial targets for the Air Force. The 3DELRR is intended to include an [REDACTED]

² (U) DoD Instruction 5000.80, "Operation of the Middle Tier of Acquisition," December 30, 2019.

³ (U) Acquisition decision memorandums document significant decisions made for an acquisition program. The Decision Authority develops acquisition strategies and employs acquisition processes that match the characteristics of the capability being acquired.

(~~CUI~~) The Air Force is developing the 3DELRR to replace the aging Air Force AN/TPS-75 radar system by 2029. The [REDACTED] and, according to the 3DELRR program office, is [REDACTED]. See Figure 2 for a picture of the 3DELRR system.



(U) The 3DELRR program began in 2009 as a major defense acquisition program. Between 2009 and 2017, the Air Force spent \$360.5 million to develop critical technology elements, reduce technical risk, produce competitive prototypes, and refine requirements for the 3DELRR. However, the program encountered significant delays due to bid protests. Following resolution of the bid protests, the Air Force awarded a contract in May 2017 for the engineering and manufacturing development phase of the 3DELRR major defense acquisition program.⁴

(U) The contractor experienced numerous technical and supplier challenges during the development of the radar that extended the schedule. The 3DELRR program manager proposed to rebaseline the program in August 2019, which would have added 3 years to the schedule. After receiving the rebaseline briefing, the SAF/AQ directed the 3DELRR program office to conduct market research into viable alternatives. During November 2019, the 3DELRR program office briefed the results of its market research that identified advancements in technology had occurred since the program began and would allow other alternatives to meet the capability faster.

⁴ (U) The purpose of the Engineering and Manufacturing Development phase is to develop, build, test, and evaluate a materiel solution to verify that all operational and implied requirements, including those for security, had been met, and to support production, deployment and sustainment decisions.

(U) The Air Force subsequently concluded the contract for the engineering and manufacturing development phase of the 3DELRR major defense acquisition program in March 2020. According to Air Force officials, none of the previously developed technology for the 3DELRR program was used, and the program transitioned to an MTA rapid prototyping program based on the other available alternatives.

(U) 3DELRR Middle Tier of Acquisition

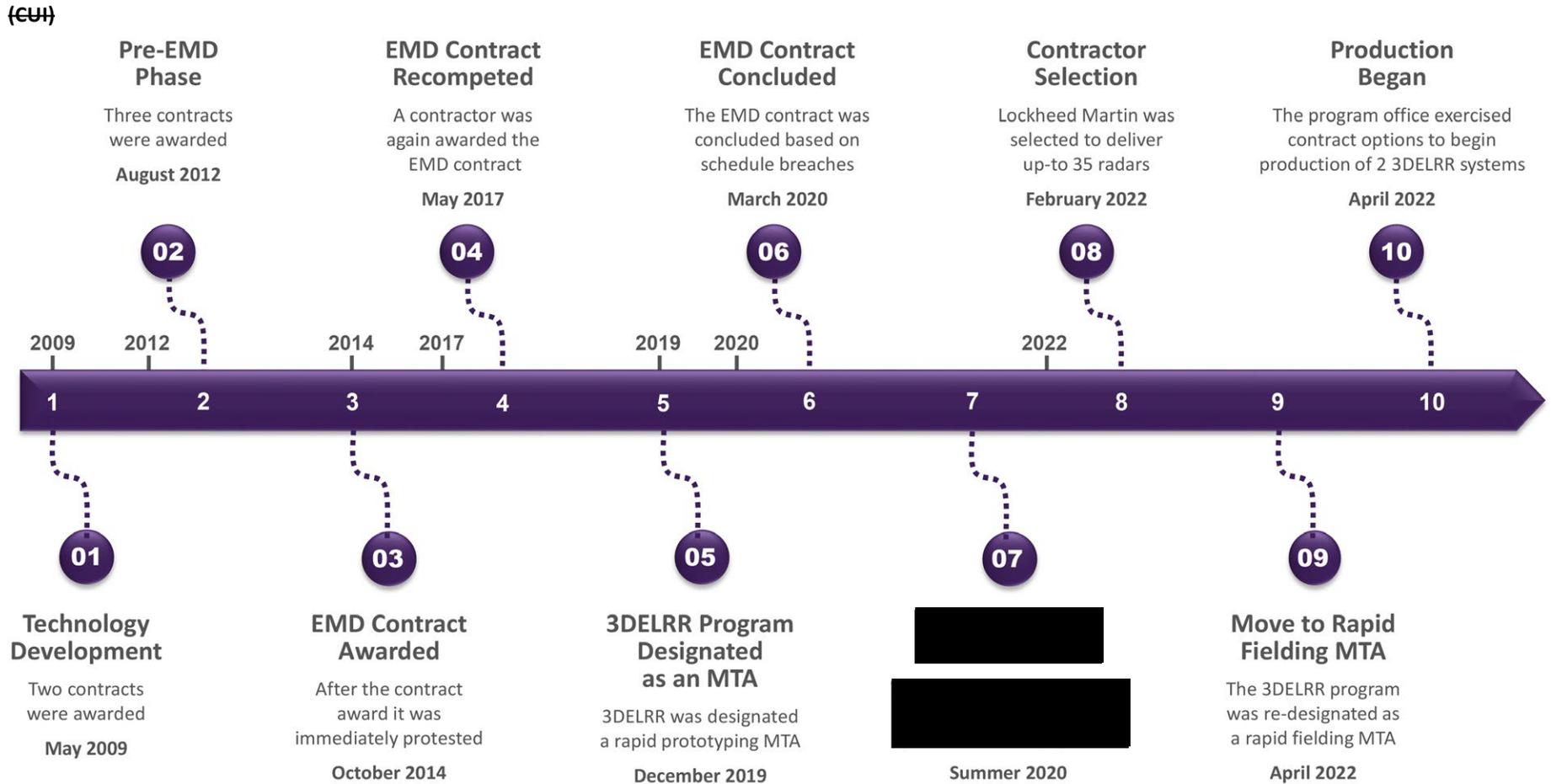
~~(CUI)~~ In an acquisition decision memorandum, dated December 27, 2019, the SAF/AQ designated the 3DELRR program as an MTA rapid prototyping program. During the prototyping path, the Air Force planned to select a contractor and produce the [REDACTED] Low-Rate Initial Production radar systems before transitioning to rapid fielding to complete production of [REDACTED] totaling 35 radar systems.⁵

~~(CUI)~~ During the summer of 2020, the 3DELRR program office [REDACTED] [REDACTED] The Air Force determined that two radar systems [REDACTED] [REDACTED] and awarded follow-on integration contracts with options for production, having a combined [REDACTED] The Air Force awarded the integration portions of the contracts [REDACTED] [REDACTED] [REDACTED] the Air Force selected Lockheed Martin to be the prime contractor.

~~(CUI)~~ On April 1, 2022, the Air Force Program Executive Officer Digital approved the 3DELRR program to move from the rapid prototyping path to the rapid fielding path. The SAF/AQ designated the 3DELRR program a rapid fielding MTA program, and the 3DELRR program office exercised an option in the Lockheed Martin contract to begin production of two radar systems and included production options for the remaining radar systems, with a total value of [REDACTED] See Figure 3 for a timeline of key events in the 3DELRR program.

⁵ ~~(CUI)~~ The 3DELRR program office referred to these [REDACTED] as Low-Rate Initial Production units in the 3DELRR rapid prototyping acquisition plan. Low-Rate Initial Production is a production of a system to provide representative articles for operational test and to establish an initial production base as to permit an orderly increase in the production rate. However, Low-Rate Initial Production is not a term used within the MTA paths. Therefore, we will refer to the [REDACTED] as initial production units.

(CUI) Figure 3. Timeline of Key Events in the 3DELRR Program



(CUI)

(U) Note: EMD stands for Engineering and Manufacturing Development

(U) Source: The DoD OIG and U.S. Air Force.

(U) Finding

(U) The Air Force Did Not Effectively Use the MTA Pathway

(U) The Air Force did not effectively use the MTA pathway for prototyping and fielding the 3DELRR system. Specifically, the 3DELRR program office did not:

- (U) complete the exit criteria during the MTA rapid prototyping path before the program transitioned to the MTA rapid fielding path, or
- (U) plan to complete fielding all 35 systems within 5 years of the MTA rapid fielding path start date as required by DoD Instruction 5000.80.

(U) This occurred because the Air Force's interpretation of the funding guidance was incorrect. Specifically, Air Force officials stated that they believed the initial production units could not be purchased in the rapid prototyping path using procurement funding. However, the DoD FMR authorizes the use of procurement funding to purchase the initial production units in the rapid prototyping path.⁶

(U) Ultimately, this misinterpretation of funding guidance led the 3DELRR program office to transition almost 3 years early to the rapid fielding path to use procurement funding. As a result, the 3DELRR program office planned to transition the 3DELRR program into an MCA early because it may not complete the rapid fielding path within the 5-year time limit. This early transition negates the purpose of the MTA pathway by not allowing the 3DELRR program to use the full MTA path timeframes. Additionally, this method may extend the time to develop needed capabilities that would benefit the warfighter.

(U) Rapid Prototyping Path Was Not Completed

(U) The 3DELRR program office did not complete the exit criteria during the MTA rapid prototyping path before the program transitioned to the MTA rapid fielding path. The 3DELRR program office established two exit criteria to complete the rapid prototyping path within 5 years of the path start date. Specifically, the exit criteria were:

- (U) complete the integration work to demonstrate that the contractor system could communicate with other Air Force command and control systems, and
- ~~(CUI)~~ begin initial production of up to [REDACTED] to achieve initial operating capability.⁷

⁶ (U) DoD Regulation 7000.14-R, "Financial Management Regulation," volume 2A, chapter 1, sections 2.13.3.5.1.3 and 2.13.3.5.4.

⁷ (U) Initial operating capability is attained when some systems are received and are able to be employed and maintained.

(~~CUI~~) In February 2022, the 3DELRR program office met the first exit criteria by completing integration work. Specifically, the 3DELRR radar system demonstrated that its signal processor could interface with the Air Force's tactical operation's module. [REDACTED]

[REDACTED]⁸
[REDACTED]
[REDACTED] Instead, the 3DELRR program office transitioned to the rapid fielding path in April 2022, almost 3 years early.

(U) 3DELRR Will Not Complete Fielding Within the Required Timeframe

(~~CUI~~) The 3DELRR program office did not plan to complete fielding all 35 systems within 5 years of the MTA rapid fielding path start date as required by DoD Instruction 5000.80. In the rapid prototyping acquisition strategy approved on November 3, 2020, the 3DELRR program office originally planned to procure [REDACTED] [REDACTED] during the rapid prototyping path and an additional [REDACTED] during the rapid fielding path. Specifically, the 3DELRR program office planned to [REDACTED]
[REDACTED]

(U) The 3DELRR program office did not plan to complete fielding all 35 systems within 5 years of the MTA rapid fielding path start date as required by DoD Instruction 5000.80.

(U) The 3DELRR program office planned to complete fielding during FY 2027. However, the 3DELRR program transitioned into the rapid fielding path in April 2022 before procuring any radar systems. Ultimately, the transition to the rapid fielding path does not result in the 3DELRR program being able to complete fielding all 35 systems within 5 years of the MTA fielding path start date.

(U) Transition into Rapid Fielding

(~~CUI~~) In April 2021, General Counsel of the Department of the Air Force officials and Assistant Secretary of the Air Force for Financial Management and Comptroller officials advised that procurement funding could not be used to acquire the [REDACTED] in the rapid prototyping path. According to the Air Force officials, the 3DELRR program office would have to move into the rapid fielding path to use procurement funding because procurement is not a prototyping activity.

⁸ (U) A node is a location in a mobility system where a movement requirement is originated, processed for onward movement, or terminated. In communications and computer systems, this is the physical location that provides terminating, switching, and gateway access services to support information exchange.

(U) On November 5, 2021, the 3DELRR Program Manager briefed the Air Force Program Executive Officer Digital on potential strategies to transition to the rapid fielding path for the initial production radar systems and then to an MCA program for the fielding of the full 35 radar systems. The Program Manager briefed that it was unlikely to field 35 radar systems within 5 years to meet the rapid fielding path requirement because future deliveries of the radar systems would need to be accelerated to meet the 5-year time limit. The Program Manager stated that opportunities existed to meet the rapid fielding path requirement if they were able to define completion as something less than 35 radar systems. The Program Manager presented three potential courses of action:

- ~~(CUI)~~ transition to a rapid fielding path to procure [REDACTED] and transition to an MCA program to purchase the remaining radar systems,
- (U) accelerate production to procure all 35 radars systems within 5 years, or
- (U) immediately transition to an MCA program.

~~(CUI)~~ The Program Manager recommended transitioning to a rapid fielding path to procure [REDACTED] and then transitioning to an MCA program to purchase the remaining radar systems. The Program Manager stated that an immediate transition to an MCA program [REDACTED]

[REDACTED] The Program Manager further stated that [REDACTED]
 [REDACTED]
 [REDACTED]
 [REDACTED] 35 radar systems. The Program Manager said that the immediate shift to an MCA would also affect the initial procurement of the two radar systems.

~~(CUI)~~ On January 6, 2022, the Program Manager briefed the SAF/AQ the strategy to transition from the rapid prototype path to the rapid fielding path. The Program Manager briefed that the 3DELRR program would transition from a rapid prototype path to a rapid fielding path for the procurement of up to [REDACTED] and then transition to an MCA program to purchase the remaining radar systems. The Program Manager again briefed that it was unlikely to field 35 radar systems within 5 years to meet the rapid fielding path requirement.

~~(CUI)~~ The Program Manager recommended updating the acquisition strategy approved on November 3, 2020, to transfer the [REDACTED] from the rapid prototyping path to the rapid fielding path and increasing the initial production from [REDACTED] to allow for procurement efficiencies.

~~(U)~~ The remaining [REDACTED] would be procured under an MCA program. The Program Manager requested the SAF/AQ approve the transition to the rapid fielding path or delegate the decision to the Air Force Program Executive Officer Digital.

(U) Modified Rapid Fielding Path

(U) On April 1, 2022, the Air Force Program Executive Officer Digital designated the 3DELRR program as an MTA rapid fielding program and approved the 3DELRR acquisition strategy allowing the program to begin initial production. The 3DELRR program had two exit criteria to complete the rapid fielding path within 5 years of the MTA program start date:

(U) On April 1, 2022, the Air Force designated the 3DELRR program as an MTA rapid fielding program and approved the 3DELRR program to begin initial production.

- ~~(U)~~ procure at least [REDACTED] inclusive of factory acceptance tests, training and technical order development, testing, fielding, and sustainment; and
- (U) provide required entrance criteria documentation before initiating MCA activities.

~~(U)~~ The 3DELRR program office intends to procure [REDACTED] in the rapid fielding path between FY 2022 and FY 2024. The 3DELRR program will then transition into an MCA in FY 2024 to procure the remaining [REDACTED] and would reach full operational capability in [REDACTED]⁹

~~(U)~~ According to the plan, the 3DELRR program office will not complete fielding of all 35 radar systems within 5 years of the MTA rapid fielding path start date. According to the 3DELRR program office, the [REDACTED]

~~(U)~~ Specifically, the 3DELRR radar system requires a [REDACTED]

~~(U)~~ The 3DELRR program office planned to implement the requirements to bring the system into full Capability Development Document compliance after the 3DELRR program transitioned to the MCA program. The Director, Plans, Programs, and Requirement, Air Combat Command, the requirement owner for 3DELRR, concurred with this approach. [REDACTED]

⁹ (U) Full operational capability is achieved when all systems are delivered and are able to be employed and maintained.

~~(CUI)~~ [Redacted]
[Redacted]
[Redacted]

(U) Transition to Rapid Fielding Path Was Based on Incorrect Determination

(U) The Air Force’s interpretation of the funding guidance was incorrect. Specifically, Air Force officials stated that they believed the initial production units could not be purchased in the rapid prototyping path using procurement funding. However, the DoD FMR authorizes the use of procurement funding to purchase the initial production units in the rapid prototyping path.¹⁰ Ultimately, this misinterpretation of funding guidance led the 3DELRR program office to transition almost 3 years early to the rapid fielding path to use procurement funding.

(U) The DoD FMR authorizes the use of procurement funding to purchase the initial production units in the rapid prototyping path.

~~(CUI)~~ The SAF/AQ approved the 3DELRR rapid prototyping acquisition strategy that included the use of procurement funding as part of the rapid prototyping path. Specifically, the 3DELRR program office planned to use [Redacted] to complete the integration work. The 3DELRR program office also planned to use [Redacted] to purchase the [Redacted]

~~(CUI)~~ In April 2021, the 3DELRR program office was concerned as to whether it could use procurement funding during the rapid prototyping path and raised this concern to the Assistant Secretary of the Air Force for Financial Management and Comptroller and the Assistant Secretary of the Air Force General Counsel. The Air Force officials advised that procurement funding could not be used to acquire the [Redacted] in the rapid prototyping path. According to Air Force officials, the 3DELRR program office was presented with two courses of action. The 3DELRR program could stay in the rapid prototyping path if the units were primarily for testing and would have to use RDT&E funding to purchase the [Redacted]. If the radar systems were primarily for operational use, the 3DELRR program office would have to use procurement funding and move into the rapid fielding path because procurement is not a prototyping activity.

¹⁰ (U) DoD Regulation 7000.14-R, “Financial Management Regulation,” volume 2A, chapter 1, sections 2.13.3.5.1.3 and 2.13.3.5.4.

(U) The Air Force officials interpreted DoD Instruction 5000.80 and the DoD FMR to disallow the use of procurement funds in the rapid prototyping path. Specifically, the Air Force officials referred to the DoD Instruction 5000.80 for the MTA pathways and the DoD FMR, volume 2A, for the use of RDT&E funding. According to Air Force officials, the 3DELRR program office was told that if the initial production units were primarily for testing, then the program should use RDT&E funds and stay in the rapid prototyping path. However, if the initial production units were primarily for operational use, then the program should transition into the rapid fielding path and use the procurement funds. The 3DELRR program office identified the initial production units as primarily for operational use and transitioned the 3DELRR program from the rapid prototype path to the rapid fielding path to avoid any delays to the program.

(U) Although the DASD(AE) was not the decision authority for the 3DELRR program, we asked DASD(AE) officials whether there was any prohibition on using procurement funds in the rapid prototyping path because the DASD(AE) was responsible for developing policy for the MTA pathways. DASD(AE) officials stated that they requested the Air Force close the rapid prototyping path and open a rapid fielding path to use procurement funds because they would rather have separate funding to distinguish between the two paths. Specifically, DASD(AE) officials wanted RDT&E funding used in the rapid prototyping path and procurement funding used in the rapid fielding path. The DASD(AE) officials added that the Air Force had asked them to identify the guidance related to the use of procurement funds in the rapid prototyping path but the DASD(AE) officials could not identify any specific guidance.

(U) Funding Guidance

~~(CUI)~~ The 3DELRR program office could have used RDT&E or procurement funding to purchase the [REDACTED] in the rapid prototype path. Section 804 of the National Defense Authorization Act for FY 2016 does not prohibit purchasing production systems under the rapid prototyping path.¹¹ Air Force officials stated that the laws and regulations did not prescribe a particular funding type for the rapid prototyping and rapid fielding paths. Specifically, title 10 of the United States Code and DoD Instruction 5000.80 do not discuss the authorized funding to purchase initial production units under the rapid prototyping and fielding paths. Air Force regulations and guidance also do not discuss the authorized funding to purchase initial production units under the rapid prototyping and fielding paths.

¹¹ (U) Public Law 114-92, "National Defense Authorization Act for Fiscal Year 2016," section 804, "Middle Tier of Acquisition for Rapid Prototyping and Rapid Fielding," November 25, 2015.

(U) The DoD FMR states that initial production assets that are provided as production configured or representative articles for operations should use RDT&E funding.¹² It also states that initial production assets purchased to establish an initial production base for the system or to permit an orderly increase in production rate for the system should use procurement funding.

(U) The Air Force could have purchased initial production units using procurement funding in the rapid prototyping path, because there is no existing guidance which contains any specific language regarding which type of funding can be used in each

⋮ *(U) There is no existing guidance which contains any specific language regarding which type of funding can be used in each MTA path.*

MTA path. Therefore, the USD(A&S) should consult with the Under Secretary of Defense (Comptroller)/Chief Financial Officer, DoD, to develop and implement guidance that establishes the appropriate funding source to purchase initial production units during the rapid prototyping and rapid fielding paths.

(U) 3DELRR Way Forward

(U) The Air Force determinations led the 3DELRR program office to transition to the rapid fielding path almost 3 years early and before the initial production units were fielded. DoD Instruction 5000.80 allows the Defense Acquisition Executive to issue a waiver for either rapid prototyping or rapid fielding paths to extend beyond 5 years if deemed necessary.¹³ According to the Defense Acquisition University, the MTA pathway has the advantages of reducing risk, providing cost savings, creating new business opportunities for innovative solution, and accelerating capability development. Additionally, the delegation of decision making to the lowest possible level promotes rapid action.

~~(CUI)~~ Extending the 3DELRR program’s rapid fielding path beyond the 5-year limit would return the time lost by transitioning to the rapid fielding path early. Furthermore, this would allow the 3DELRR program the allotted time within the MTA pathway to complete fielding and reach full operational capability by [REDACTED]. The SAF/AQ should require the Air Force Program Executive Officer Digital to request a waiver to extend the rapid fielding path for the 3DELRR program to complete fielding in the MTA pathway. Also, the SAF/AQ should require the 3DELRR program office to develop a plan to complete fielding the 3DELRR program in the rapid fielding path if a waiver is issued.

¹² (U) DoD Regulation 7000.14-R, “Financial Management Regulation,” volume 2A, chapter 1, sections 2.13.3.5.1.3 and 2.13.3.5.4.

¹³ (U) DoD Instruction 5000.80, “Operation of the MTA,” December 30, 2019.

(U) 3DELRR Will Not Complete Fielding Under MTA Pathway

~~(CUI)~~ The 3DELRR program office planned to transition the 3DELRR program into an MCA early because it may not complete the rapid fielding path within the 5-year time limit. This negates the purpose of the MTA pathway by not allowing the 3DELRR program to use the full MTA path timeframes. Additionally, this may extend the time to develop needed capabilities that would benefit the warfighter. According to Air Force officials, [REDACTED]

[REDACTED] The Air Force may reduce the capability or mission gap for the warfighter by fielding the 3DELRR radar system in the MTA pathway.

~~(CUI)~~ According to Air Force officials, [REDACTED]

[REDACTED] At the end of FY 2023, the 3DELRR program office anticipates making the decision to transition into an MCA pathway after only procuring [REDACTED]

(U) The 3DELRR program will be unable to take full advantage of the timeframes allowed by regulation to complete the rapid prototype and rapid fielding paths. In the absence of specific guidance, future programs could face similar situations that could affect the DoD's ability to use the MTA pathways to field capabilities quickly. Future programs that intend to purchase initial production units for the rapid prototyping path could potentially be denied the full benefit of the MTA pathway if the guidance regarding allowable funds is not clarified.

(U) Recommendations, Management Comments, and Our Response

(U) Revised Recommendations

(U) As a result of management comments, we revised the first recommendation (Recommendation 1.a in the draft report) to highlight the responsibility of the Under Secretary of Defense for Acquisition and Sustainment (USD[A&S]) to consult with the Under Secretary of Defense (Comptroller)/Chief Financial Officer, DoD, (USD[C]/CFO) to develop and implement guidance that establishes the appropriate funding source to use to purchase initial production units during the rapid prototyping and rapid fielding paths. Additionally, we revised and renumbered Recommendation 1.b from the draft report to Recommendation 2.a. We also renumbered Recommendation 2 from the draft report to Recommendation 2.b.

(U) We redirected both recommendations to the Assistant Secretary of the Air Force (Acquisition, Technology, and Logistics). We also revised Recommendation 2.a (Recommendation 1.b in the draft report) to require the Air Force Program Executive Officer Digital to request a waiver to extend the rapid fielding path for the 3DELRR program to complete fielding in the middle tier of acquisition pathway.

(U) Recommendation 1

(U) We recommend that the Under Secretary of Defense for Acquisition and Sustainment consult with the Under Secretary of Defense (Comptroller)/Chief Financial Officer, DoD, to develop and implement guidance that establishes the appropriate funding source to purchase initial production units during the rapid prototyping and rapid fielding paths.

(U) Under Secretary of Defense for Acquisition and Sustainment Comments

(U) The Director, Acquisition Data and Analytics, responding for the USD(A&S), disagreed stating that the USD(A&S) does not make funding policy or guidance, which lies solely with the USD(C)/CFO. Therefore, the USD(A&S) does not have the ability to:

- (U) determine the appropriate funding to purchase initial production units during the rapid prototyping and rapid fielding paths, or
- (U) update DoD Instruction 5000.80, as recommended, as that is out of the scope of their roles and responsibilities.

(U) The Director recommended that the DoD Office of Inspector General (DoD OIG) engage with the USD(C)/CFO if there are concerns about appropriate funding amounts.

(U) Our Response

(U) Comments from the Director did not address the recommendation; therefore, the recommendation is unresolved. According to DoD Instruction 5000.80, the USD(A&S) is responsible for establishing policy and providing guidance for the MTA pathway in consultation with the USD(C)/CFO. It further states that the USD(C)/CFO is responsible for reviewing and providing advice to the USD(A&S) on funding for programs using the MTA pathway. While we agree that the USD(C)/CFO is responsible for funding policy, the USD(A&S) should be included in the discussion as it relates to MTAs, and should be knowledgeable about the appropriate funding. This funding decision can be included in other policy; however, DoD Instruction 5000.80 should reference those policies.

(U) As discussed in the exit conference, DASD(AE) officials stated that the Acquisition Data and Analytics office had discussions with USD(C)/CFO officials about the correct funds to purchase initial production units during the MTA pathways. The DASD(AE) officials stated that the USD(C)/CFO officials planned to change its position and allow the use of procurement funds to purchase initial production units. However, as of the date of this report, formal guidance had not been issued. As a result, we revised the recommendation to highlight the responsibility of the USD(A&S) to consult with the USD(C)/CFO to determine the appropriate funding to purchase initial production units during the rapid prototyping and rapid fielding paths and to provide appropriate guidance for the DoD. We request that, within 30 days of the final report, the Director, Acquisition Data and Analytics provide comments that address the efforts to coordinate with the USD(C)/CFO and issue guidance regarding MTA pathway funding.

(U) Recommendation 2

(U) We recommend that the Assistant Secretary of the Air Force (Acquisition, Technology, and Logistics):

- a. (U) Require the Air Force Program Executive Officer Digital to request a waiver to extend the rapid fielding path for the Three-Dimensional Expeditionary Long-Range Radar program to complete fielding in the middle tier of acquisition pathway.**

(U) Under Secretary of Defense for Acquisition and Sustainment Comments

(U) The Director, Acquisition Data and Analytics, responding for the USD(A&S), disagreed, stating that each program using the MTA pathway is permitted to request a waiver as necessary, per both Department policy and section 804 of the National Defense Authorization Act for FY 2016. The Director stated that the USD(A&S) does not need to direct a study because of the existing policy and will standby, should the Department of the Air Force choose to pursue a waiver.

(U) Our Response

(U) We agree that the existing policy permits the Air Force to request a waiver. DoD Instruction 5000.80 states that the USD(A&S) is responsible for advising the decision authorities on their MTA programs and working with them to ensure streamlined processes. While we believe the USD(A&S) could advise the Air Force to conduct a study to determine the feasibility of requesting a waiver, we redirected this recommendation to the Air Force to recommend that it request a waiver to

(U) extend the rapid fielding path for allowing the Three-Dimensional Expeditionary Long-Range Radar program. As we redirected this recommendation, we consider it unresolved and request that the Assistant Secretary of the Air Force (Acquisition, Technology, and Logistics) provide comments within 30 days on the final report.

b. (U) require the Three-Dimensional Expeditionary Long-Range Radar program office to develop a plan to complete fielding the Three-Dimensional Expeditionary Long-Range Radar program in the rapid fielding path if a waiver is issued.

(U) Management Comments Required

(U) The Air Force Program Executive Officer Digital did not respond to the recommendation in the report. Therefore, the recommendation is unresolved. In addition, we elevated the recommendation to the Assistant Secretary of the Air Force (Acquisition, Technology, and Logistics) and request that the Assistant Secretary of the Air Force (Acquisition, Technology, and Logistics) provide comments within 30 days on the final report.

(U) Appendix

(U) Scope and Methodology

(U) We conducted this performance audit from March 2022 through May 2023 in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

(U) To determine whether Air Force officials effectively used the MTA pathway for the prototyping and fielding of the 3DELRR program, we interviewed officials from the Offices of the Joint Chiefs of Staff, USD(A&S), DASD(AE), SAF/AQ, and the 3DELRR program office. Our interviews helped us identify roles and responsibilities and involvement with the transition of the 3DELRR program from a major defense acquisition program to an MTA. We also met with the 3DELRR program office to:

- (U) identify how the program complied with the requirements of using the MTA pathway,
- (U) determine the status of program costs,
- (U) determine whether the program was on track to complete the program within the 5-year requirement, and
- (U) identify how acquisition personnel managed and executed the program.

(U) We reviewed 3DELRR acquisition and contract documentation, including the acquisition strategies, acquisition decision memorandums, Capabilities Development Document, program schedules, cost estimates, technology and manufacturing readiness assessments, and MTA documentation that include market research and requirements for the rapid prototyping and fielding paths. Additionally, we reviewed the two integration contracts awarded in 2021. We also reviewed the following Federal laws, DoD regulations, and guidance related to the MTA pathway and funding requirements.

- (U) Public Law 114-92, “National Defense Authorization Act for FY 2016,” section 804, “Middle Tier of Acquisition for Rapid Prototyping and Rapid Fielding,” November 25, 2015
- (U) DoD Instruction 5000.02, “Operation of the Adaptive Acquisition Framework,” January 23, 2020
- (U) DoD Instruction 5000.80, “Operation of the MTA,” December 30, 2019

- (U) DoD Regulation 7000.14-R, “DoD Financial Management Regulation,” volume 2A
- (U) Air Force Instruction 63-146, “Operation of the MTA,” May 7, 2021
- (U) Air Force/A5R, Requirements Development Guidebook, volume 5, “Requirements Activities to Support MTA Pathway,” June 24, 2020 (Version 4.3)
- (U) Air Force Memorandum, “Air Force Guidance Memorandum for Rapid Acquisition Activities,” June 27, 2019, superseded by Air Force Instruction 63-146, “Operation of the MTA,” May 7, 2021

(U) Internal Control Assessment and Compliance

(U) We assessed internal controls and compliance with laws and regulations necessary to satisfy the audit objective. In particular, we assessed the internal control environment and internal controls for monitoring for the 3DELRR program. Additionally we assessed the underlying principles significant to determining whether Air Force officials effectively used the MTA pathway for the prototyping and fielding of the 3DELRR program. However, because our review was limited to these internal control components and underlying principles, it may not have disclosed all internal control deficiencies that may have existed at the time of this audit.

(U) Use of Computer-Processed Data

(U) We did not use computer-processed data to perform this audit.

(U) Prior Coverage

(U) During the last 8 years, the Government Accountability Office (GAO) and the DoD OIG issued seven reports discussing MTAs and the 3DELRR program. Unrestricted GAO reports can be accessed at <http://www.gao.gov>. Unrestricted DoD OIG reports can be accessed at <http://www.dodig.mil/reports.html/>.

(U) GAO

(U) Report No. GAO-23-105008, “Middle-Tier Defense Acquisitions: Rapid Prototyping and Fielding Requires Changes to Oversight and Development Approaches,” February 7, 2023.

(U) GAO found that DoD established policies and guidance for managing the MTA pathway, but several factors hinder effective implementation and oversight. As a result, the oversight role of the Under Secretary of Defense for Acquisition and Sustainment with regard to the MTA pathway is diminished. GAO also found that DoD components provided the Under Secretary of Defense for Acquisition and Sustainment with inaccurate data. Together, these issues complicate DoD’s efforts to conduct data-driven oversight of the MTA pathway.

(U) Report No. GAO-20-439, “Defense Acquisitions Annual Assessment: Drive to Deliver Capabilities Faster Increases Importance of Program Knowledge and Consistent Data for Oversight,” June 3, 2020

(U) After reviewing 121 DoD weapon and information technology programs, the GAO determined that major defense acquisition programs continue to proceed with limited knowledge and inconsistent software development approaches and cybersecurity practices. The GAO also determined that the DoD is challenged in assessing performance of MTA programs due to inconsistent reporting and wide variation in schedule metrics.

(U) Report No. GAO-19-439, “DoD Acquisition Reform: Leadership Attention Needed to Effectively Implement Changes to Acquisition Oversight,” June 5, 2019

(U) The GAO determined that the DoD has made progress in implementing reforms to restructure the oversight of major defense acquisition programs by shifting decision making authority for many programs from the Office of the Secretary of Defense to the Military Departments. The GAO also determined that DoD leadership had not fully addressed continuing disagreements between the Office of the Secretary of Defense and the Military Departments about the division of roles and responsibilities for acquisition oversight.

(U) Report No. GAO-18-360SP, “Weapon Systems Annual Assessment: Knowledge Gaps Pose Risks to Sustaining Recent Positive Trends,” April 25, 2018

(U) The GAO determined the 3DELRR program had technology maturity risk and design stability risk. The 3DELRR critical technologies would not be proven until developmental tests, which were scheduled to start in April 2020. The 3DELRR critical design review was delayed because of lack of technical readiness.

(U) Report No. GAO-17-333SP, “Weapon Systems Annual Assessment: Knowledge Gaps Pose Risks to Sustaining Recent Positive Trends,” March 30, 2017

(U) The GAO determined that the 3DELRR program had technology and design maturity risk. The 3DELRR’s planned design was software-intensive and if not performed adequately, subsequent integration of hardware and software could be delayed. The 3DELRR was also using new technology that was unproven. The 3DELRR program conducted multiple efforts to reduce risk.

(U) Report No. GAO-15-103, "Ground Radar and Guided Munitions: Increased Oversight and Cooperation Can Help Avoid Duplication among the Services' Programs," December 19, 2014

(U) The GAO determined that the U.S. Air Force 3DELRR program and the Marine Corps Ground/Air Task Oriented Radar Block I programs had some overlapping key capability requirements, such as range, and are potentially duplicative. As a result of reviews conducted by the Joint Requirements Oversight Council and the DoD's Office of Cost Assessment and Program Evaluation, which develops guidance for analyzing alternative ways to fulfill capability needs, the Air Force made positive changes to the 3DELRR program, such as reducing some requirements to improve program affordability.

(U) DoD OIG

(U) Report No. DODIG-2021-131, "Audit of DoD Middle Tier of Acquisition Rapid Prototyping and Rapid Fielding Programs," September 28, 2021

(U) The DoD OIG determined that DoD acquisition personnel effectively leveraged the MTA pathway for 11 programs reviewed to rapidly develop prototypes and field proven technologies to the warfighter as intended by DoD guidance. The report stated that because the MTA programs were still in the early stages of execution and DoD acquisition reform remained a work in progress, the DoD must continue to balance management and oversight of these programs with the risk involved to ensure the efficient delivery of needed, useful capabilities at a fair and reasonable cost.

(U) Management Comments

(U) Under Secretary of Defense for Acquisition and Sustainment

Final
Report Reference



ACQUISITION
AND SUSTAINMENT

OFFICE OF THE THE UNDER SECRETARY OF DEFENSE
3010 DEFENSE PENTAGON
WASHINGTON, DC 20301-3010

██████████
U.S. Department of Defense - Office of Inspector General
4800 Mark Center Drive
Alexandria, VA 22350-1500

Dear ██████████:

This is the Office of the Under Secretary for Acquisition and Sustainment (OUSD(A&S)) response to the DoD OIG Audit of the “Acquisition of the U.S. Air Force Three Dimensional Expeditionary Long Range Radar,” dated May 15, 2023 (Project No. D2022-D000AT-0111.000). The OUSD(A&S) acknowledges receipt of the draft audit and non-concurs with both recommendations made. These concerns were previously expressed during the exit interview and the Department’s position has not changed.

Addressing Recommendation 1a: OUSD(A&S) non-concurs with DoDIG Recommendation 1a and will not be able to complete this recommendation. OUSD(A&S) does not make funding policy and/or guidance, which lies solely with OSD(Comptroller). Therefore, OUSD(A&S) does not have the ability to “determine the appropriate funding to purchase initial production units during the RP and RF paths, and update DoDI 5000.80,” as recommended, as that is out of the scope of their roles and responsibilities. OUSD(A&S) recommends the DoDIG engages with OSD(Comptroller) if there are concerns about appropriate funding amounts.

On Recommendation 1b: OUSD(A&S) non-concurs with the recommendation that “USD(A&S) directs the Assistant Secretary of the Air Force (Acquisition, Technology, and Logistics) to conduct a study to determine the feasibility of issuing a waiver to extend the rapid fielding path allowing the 3DELRR program to complete fielding in the MTA pathway and implement the results as appropriate.” Each program utilizing the MTA pathway is permitted to request a waiver as necessary, per both Department policy and FY16 NDAA Sec 804. Due to existing policy, USD(A&S) does not need to direct a study and will standby, should the Department of the Air Force choose to pursue a waiver.

Sincerely,

CADMAN.DAVID
S. ██████████

David S. Cadman
Director, Acquisition Data and Analytics

Revised
Recommendation 1

Revised
Recommendation 2.a

(U) Acronyms and Abbreviations

3DELRR	Three-Dimensional Expeditionary Long-Range Radar
CAE	Component Acquisition Executive
DASD(AE)	Deputy Assistant Secretary of Defense for Acquisition Enablers
FMR	Financial Management Regulation
GAO	U.S. Government Accountability Office
MCA	Major Capability Acquisition
MTA	Middle Tier of Acquisition
RDT&E	Research, Development, Test, and Evaluation
SAF/AQ	Assistant Secretary of the Air Force (Acquisition, Technology and Logistics)
USD(A&S)	Under Secretary of Defense for Acquisition and Sustainment



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