Report No. DODIG-2024-056

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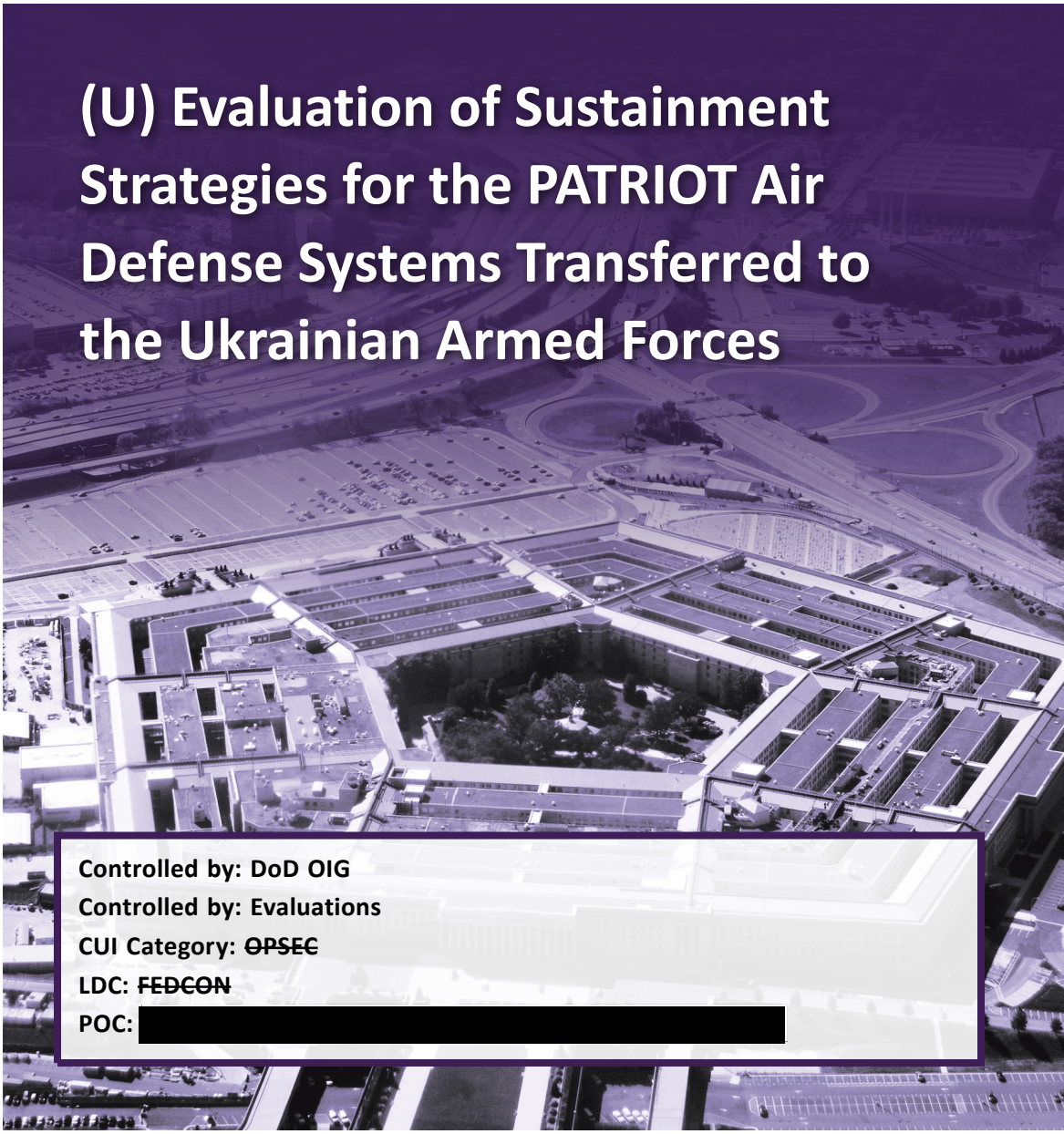
INSPECTOR GENERAL

U.S. Department of Defense

FEBRUARY 15, 2024

(U) Evaluation of Sustainment Strategies for the PATRIOT Air Defense Systems Transferred to the Ukrainian Armed Forces



Controlled by: DoD OIG
Controlled by: Evaluations
CUI Category: ~~OPSEC~~
LDC: ~~FEDCON~~
POC: [redacted]

INDEPENDENCE ★ INTEGRITY ★ EXCELLENCE ★ TRANSPARENCY

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INSPECTOR GENERAL
INTEGRITY
EFFICIENCY
DEPARTMENT OF DEFENSE

(U) Results in Brief

(U) Evaluation of Sustainment Strategies for the PATRIOT Air Defense Systems Transferred to the Ukrainian Armed Forces

February 15, 2024

(U) Objective

(U) The objective of this evaluation was to determine the extent to which the DoD developed and implemented sustainment strategies in support of Phased Array Tracking Radar to Intercept on Target (PATRIOT) air defense systems transferred to the Ukrainian Armed Forces (UAF).

(U) Background

(U) As of September 7, 2023, the United States committed more than $44 billion in security assistance to the Government of Ukraine since the beginning of Russia's full-scale invasion of Ukraine on February 24, 2022. As part of the security assistance to Ukraine, the United States provided or committed to provide air defense capabilities, including PATRIOT air defense systems, that allow the UAF to detect and intercept aircraft, projectiles, and unmanned aerial systems.

(U) Finding

(U) The DoD did not develop a sustainment strategy for the PATRIOT air defense systems transferred to the UAF. DoD officials provided basic operation and maintenance training courses for the UAF on the PATRIOT air defense systems, as well as initial parts and supplies. However, the DoD did not establish advanced training to address life-cycle maintenance tasks, a process to anticipate sustainment needs, a supply system for providing replacement parts, or facilities necessary to perform life-cycle sustainment activities.

(U) Finding (cont'd)

(U) DoD officials did not develop a strategy for the life-cycle sustainment of the PATRIOT air defense systems because:

- (U) the Presidential Drawdown Authority used to transfer the systems does not include requirements for ongoing sustainment,
- (U) the DoD did not issue specific guidance to establish the scope and time frame for sustainment for the systems provided to Ukraine, and
- (U) the DoD did not identify requirements for facilities and processes to provide life-cycle support for the systems.

(U) Providing PATRIOT air defense systems to the UAF without a strategy for sustainment increases risks to both the DoD and Ukraine. Specifically, Ukraine may not be able to independently sustain the systems, and the DoD may face challenges supporting PATRIOT systems in Ukraine while still maintaining readiness of U.S. PATRIOT air defense systems.

(U) Recommendations

(U) We recommend that the Under Secretary of Defense for Policy, in coordination with the Under Secretary of Defense for Acquisition and Sustainment, develop and implement a sustainment strategy for PATRIOT air defense systems transferred to the UAF.

(U) We recommend that the Under Secretary of Defense for Policy, in coordination with the Under Secretary of Defense for Acquisition and Sustainment, determine whether current processes should be adapted or additional processes should be identified or developed to provide funding for sustainment of the PATRIOT air defense systems transferred to the UAF. Further, the Under Secretary of Defense for policy should develop and implement new or revised processes as warranted. We also recommend that the Commander of the U.S. European Command, in coordination with the Under Secretary of Defense for Acquisition and Sustainment, identify

(U) Results in Brief

(U) Evaluation of Sustainment Strategies for the PATRIOT Air Defense Systems Transferred to the Ukrainian Armed Forces

(U) Recommendations (cont'd)

(U) requirements and facilities to provide life-cycle support to sustain PATRIOT air defense systems or components transferred to the UAF.

(U) Management Comments and Our Response

(U) Both the USD(A&S) and the Acting USD(P) partially agreed and suggested that we redirect Recommendation 1 in accordance with DoD directives. Additionally, for Recommendation 2, the USD(A&S) and Acting USD(P) stated that the DoD provided funding in FY 2023 to sustain the PATRIOT air defense system. The USD(P) also established the Cross-Department Working Group to identify requirements that inform future security assistance decisions and support provided to the UAF.

(U) These management comments satisfy the intent of the first two recommendations. Therefore, we made the suggested revision to Recommendation 1, and we (U) consider these recommendations resolved but open. We will close the recommendations when we receive documentation showing that the USD(P), in coordination with the USD(A&S), has developed and implemented a sustainment strategy for PATRIOT air defense systems transferred to the UAF, and has assessed and developed and implemented new or revised processes as warranted.

(U) The USD(A&S), Acting USD(P), and USEUCOM J-5 Deputy Director, responding on behalf of the USEUCOM Commander, agreed with Recommendation 3. Comments from the USD(A&S), Acting USD(P), and USEUCOM J-5 Deputy Director addressed the specifics of this recommendation; therefore, the recommendation is resolved but open. We will close the recommendations when we receive documentation showing that the USEUCOM Commander, in coordination with the USD(A&S), has identified requirements and facilities to provide life-cycle support to sustain PATRIOT air defense systems transferred to the UAF.

(U) Recommendations Table

(U) Management	Recommendations Unresolved	Recommendations Resolved	Recommendations Closed
Under Secretary of Defense for Acquisition and Sustainment	None	1,2,3	None
Under Secretary of Defense for Policy	None	1,2	None
Commander, United States European Command	None	3	None

(U)

(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.


INSPECTOR GENERAL
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EFFICIENCY
DEPARTMENT OF DEFENSE

OFFICE OF INSPECTOR GENERAL
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February 15, 2024

MEMORANDUM FOR UNDER SECRETARY OF DEFENSE FOR ACQUISITION
AND SUSTAINMENT
UNDER SECRETARY OF DEFENSE FOR POLICY
COMMANDER, U.S. EUROPEAN COMMAND

SUBJECT: (U) Evaluation of Sustainment Strategies for the PATRIOT Air Defense Systems Transferred to the Ukrainian Armed Forces (Report No. DODIG-2024-056)

(U) This final report provides the results of the DoD Office of Inspector General's evaluation. 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) The USD(A&S), Acting USD(P), and Commander of the U.S. European Command agreed to address all of the recommendations in this report; therefore, we consider the recommendations resolved and open. As described in the Recommendations, Management Comments, and Our Response section of this report, we will track and close the recommendations when we have received documentation that we determine demonstrates all agreed-upon actions to implement the recommendations are completed. Therefore, please provide within 90 days your response concerning specific actions in process or completed on the recommendations. Send your response to either [redacted] if classified SECRET.

(U) If you have any questions, please contact [redacted]
We appreciate the cooperation and assistance received during the evaluation.

FOR THE INSPECTOR GENERAL:

Dana K Johnson

Dana K. Johnson
Acting Assistant Inspector General for Evaluations
Programs and Combatant Commands

(U) Contents

(U) Introduction

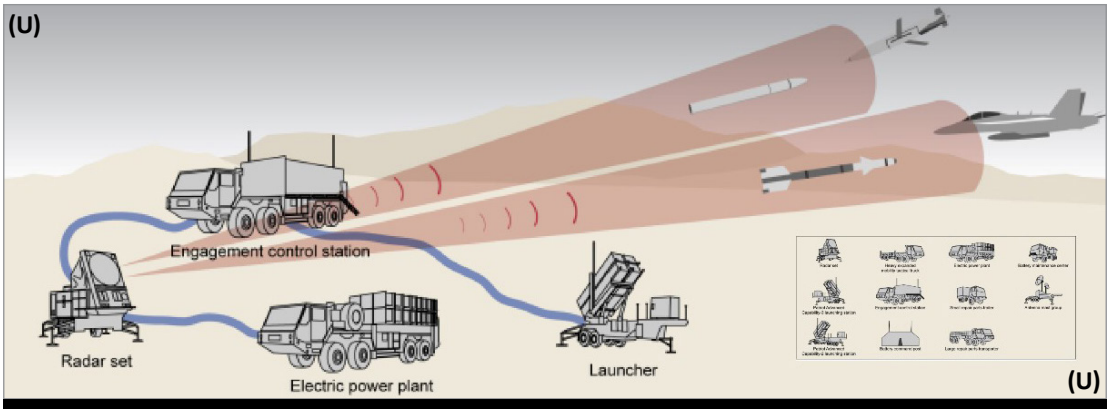
(U) Objective

(U) The objective of this evaluation was to determine the extent to which the DoD developed and implemented sustainment strategies in support of the Phased Array Tracking Radar to Intercept on Target (PATRIOT) air defense systems transferred to the Ukrainian Armed Forces (UAF).

(U) The announced objective for this project also included development and implementation of sustainment strategies for the Stinger, the Homing All the Way Killer (HAWK), counter-unmanned aerial systems (C-UASs), and the National Advanced Surface-to-Air Missile System (NASAMS). However, during the planning phase of our evaluation, we narrowed our scope to focus on the sustainment of the PATRIOT air defense systems. We made this change based on the limited sustainment needs for the Stinger, HAWK, and C-UAS systems and the atypical contractor and partner nation sustainment support for the NASAMS.

(U) Background

(U) As of September 7, 2023, the United States committed more than $44 billion in security assistance to the Government of Ukraine since the beginning of Russia's full-scale invasion of Ukraine on February 24, 2022. As part of that security assistance to Ukraine, the United States provided or committed to provide air defense capabilities that allow the UAF to detect and intercept aircraft, projectiles, and unmanned aerial systems. PATRIOT air defense systems are a significant capability that the United States provided to defend against air and missile threats to Ukrainian forces, cities, and critical infrastructure. The PATRIOT is the U.S. Army's most advanced air defense system and is capable of defeating both high-performance aircraft and tactical ballistic missiles.



(U) Figure 1. PATRIOT Air Defense System Components
(U) Source: GAO Report No. GAO-18-447.

(U) DoD Responsibilities for Identifying Security Cooperation and Sustainment Policies

(U) DoD Directive (DoDD) 5100.01 states that the Under Secretaries of Defense implement policy established by the Secretary or Deputy Secretary of Defense, assign responsibilities, and provide policy guidance to the heads of other DoD Components, when authorized to do so.[1] Additionally, the Under Secretaries of Defense develop and initiate programs, plans, actions, and taskings to ensure adherence to DoD policies and national security objectives. DoDD 5100.01 also identifies that the Under Secretary of Defense for Policy (USD[P]) is the principal staff assistant and advisor to the Secretary and Deputy Secretary of Defense for all matters on the formulation of national security and defense policy and the integration and oversight of DoD policy and plans to achieve national security objectives.[2] DoDD 5100.01 also states that the Under Secretary of Defense for Acquisition and Sustainment (USD[A&S]) is the principal staff assistant and advisor to the Secretary and Deputy Secretary of Defense on all acquisition and sustainment and related matters in the DoD. The Directive assigns combatant commands responsibility to give authoritative direction to subordinate commands to carry out assigned missions, including authoritative direction over military operations, joint training, and logistics.

(U) DoDD 5132.03 states that the geographic combatant commander maintains responsibility for all security cooperation matters within an assigned area.[3] These responsibilities include developing security cooperation plans that integrate DoD and interagency stakeholders, assessing partners' security environments, identifying capability requirements, developing comprehensive approaches to building partner capacity, monitoring and evaluating ongoing security cooperation activities, and informing the USD(P) of any obstacles to execution. The Defense Security Cooperation Agency's (DSCA's) Security Assistance Management Manual (SAMM) restates these as a primary responsibility for security assistance planning.[4] According to the SAMM, the DSCA director provides staff support to the USD(P) for security assistance matters, and the DSCA directs, administers, and supervises the execution, including closure, of all security assistance programs for the DoD, including Presidential Drawdown Authority (PDA), the Ukraine Security Assistance Initiative (USAI), and Foreign Military Sales (FMS).

[1] (U) DoDD 5100.01, "Functions of the Department of Defense and Its Major Components," December 21, 2010 (Incorporating Change 1, September 17, 2020).

[2] (U) The Office of the Under Secretary of Defense for Policy oversees DoD policy related to security assistance and cooperation efforts through the Assistant Secretary of Defense (Strategy, Plans, and Capabilities) and the Deputy Assistant Secretary of Defense (Global Partnerships). The Office of the Under Secretary of Defense for Policy also has Ukraine-specific policy development responsibilities through the Assistant Secretary of Defense (International Security Affairs) and the Deputy Assistant Secretary of Defense (Ukraine, Russia, and Eurasia).

[3] (U) DoDD 5132.03, "DoD Policy and Responsibilities Relating to Security Cooperation," December 29, 2016.

[4] (U) DSCA Manual 5105.38-M, "Security Assistance Management Manual," April 30, 2012 (as updated).

(U) The DoD's Multiple Funding Authorities for Providing Defense Articles to the UAF

(U) The DoD provides defense articles to the UAF through PDA and the USAI. PDA allows the United States to deliver equipment to Ukraine up to an established dollar value and only from existing DoD stocks. The provision of defense articles and services up to that dollar value has no expiration date as PDA is intended to provide assistance quickly in response to unforeseen emergencies. On September 6, 2023, the United States announced the 46th Presidential drawdown. The USAI allows the United States to send equipment to Ukraine from industry or partner nations. The USAI is funded through congressionally appropriated funds that typically must be obligated in the current fiscal year.[5] On July 19, 2023, the United States announced the beginning of a contracting process to provide additional priority capabilities to Ukraine using USAI authorities.

(U) The FMS program, authorized by the Arms Export Control Act, is another form of security assistance used to provide defense articles to Ukraine.[6] Under FMS, the United States may sell defense articles and services to authorized foreign countries when the President formally finds that doing so will strengthen the security of the United States and promote world peace. FMS may be funded by country national funds or U.S. Government funds and is a fundamental tool of U.S. foreign policy.

(U) The DoD's Cross-Department Working Group Evaluates Capabilities Proposed for Transfer to the UAF

~~(CUI)~~ [redacted]. Ukraine submits letters of request for needed capabilities to the Office of Defense Cooperation–Ukraine, and representatives from the Government of Ukraine discuss any concerns with U.S. representatives. The Office of Defense Cooperation–Ukraine and U.S. European Command (USEUCOM) review the letters of request before the letters are submitted to the CDWG. USEUCOM staff discuss and identify maintenance and sustainment considerations.

[5] (U) According to the GAO Principles of Federal Appropriations, 3rd ed., volume 1, January 2004, Congress authorizes appropriations either as annual appropriations, which limit the ability to obligate those funds only during the fiscal year for which Congress made them, or multiple year appropriations, which are available for obligation for a definite period in excess of 1 fiscal year. All appropriations are assumed to be annual appropriations unless otherwise specified by the appropriation act.

[6] (U) "Arms Export Control Act," Public Law 90–629 (as amended by Public Law 117–263).

~~(CUI)~~ An OUSD(P) document stated that the [redacted]

As a result of our analysis, we determined that the guidance produced by the OUSD(P) was primarily in the form of working group slides. However, OUSD(P) officials stated that no standardized process exists for identifying and validating sustainment requirements at the DoD level.[7] An Office of the Under Secretary of Defense for Acquisition and Sustainment (OUSD[A&S]) official stated that the Office of the Deputy Assistant Secretary of Defense (Materiel Readiness) (ODASD[MR]) is responsible for ensuring that the CDWG considers sustainment for every item identified for transfer to the UAF, regardless of the authorities used. The President makes the final determination of which capabilities to transfer to the UAF based on recommendations made by the CDWG. Once approved, the DoD publishes an execute order that directs drawdown (in the case of PDA) or case execution (in the case of the USAI or FMS). Although OUSD(P) officials stated that at least 90 days of spares and maintenance is an assumed requirement, no guidance exists to specifically identify what amount of sustainment the execute order should include.

(U) PATRIOT Air Defense System Sustainment

(U) PATRIOT air defense system components have varying maintenance and sustainment requirements. Necessary sustainment includes specialized training for operators and maintainers, support equipment, spare parts and supplies, and maintenance facilities. All system components have publications covering directed maintenance requirements plus mandatory parts lists. According to Army Regulation (AR) 750-1, the U.S. Army Materiel Command (AMC) is responsible for developing sustainment-level maintenance concepts to manage sustainment maintenance, including forward repair activities, and ensuring that spares and repair parts are available throughout life cycles.[8] The U.S. Army Aviation and Missile Command (AMCOM), as the materiel manager for the PATRIOT air defense system, is currently updating the PATRIOT life-cycle sustainment plan (LCSP), required by Army regulation.[9] An AMCOM official stated that AMCOM anticipates publishing the updated LCSP in February 2024. The Assistant Secretary of the Army (Acquisition, Logistics, and Technology) (ASA[ALT]) and the Program Executive Office for Missiles and Space determine end item life-cycle sustainability. AMCOM officials stated that the Short and Intermediate Effectors for Layered Defense Project Office is the office

[7] (U) The DoD Office of Inspector General is currently performing an audit of the DoD'S controls for validating and responding to Ukraine's requests for military equipment and assistance (Project No. D2023-D000RH-0034.000). The objective of this audit is to determine the extent to which the DoD implemented controls for validating Ukraine's requests for military equipment and assistance, coordinating requests with partner nations, and identifying DoD sources to support the requests.

[8] (U) AR 750-1, "Army Materiel Maintenance Policy," March 2023.

[9] (U) AR 700-127, "Integrated Product Support," October 2018.

(U) of primary responsibility for developing and implementing sustainment strategies for the PATRIOT air defense systems. This office and the Army Integrated Fires Mission Command (IFMC) project office share responsibility for PATRIOT launcher system sustainment, and the IFMC is responsible for developing and implementing the sustainment strategy for PATRIOT ground support equipment. Only one contracted provider exists for PATRIOT ground support equipment.

(U) The DSCA's SAMM provides general guidance for providing security assistance, including sustainment. Specifically, the SAMM requires that requests for assistance be evaluated to determine whether the requirements provide a realistic operational capability. The SAMM lists specific considerations for a "total package approach" for security assistance, including training, technical assistance, initial support, end items, ancillary items, concurrent spares, ammunition, logistics, and follow-on support. The SAMM states that the total package approach ensures items can be operated and maintained in the future and further states that the necessary planning for follow-on support, training, and other elements of continuity should accompany the transfer of end items.

(U) Finding

(U) The DoD Did Not Develop a Sustainment Strategy for the PATRIOT Air Defense Systems Transferred to the UAF

(U) DoD officials did not develop a strategy for the life-cycle sustainment, including battle damage repair, of the PATRIOT air defense systems transferred to the UAF. During the transfer of these air defense systems, DoD officials provided basic operation and maintenance training courses for the UAF on the PATRIOT air defense systems at Fort Sill, Oklahoma, and in Poland. Additionally, U.S. Army IFMC project office officials provided an initial spare parts package for the PATRIOT air defense systems transferred to the UAF that was based on the PATRIOT air defense system configuration sent.[10] Finally, DoD officials provided remote maintenance capabilities through a 12-month contract that included support for the PATRIOT air defense systems. However, DoD and Army officials did not establish:

- (U) additional training for the UAF to address advanced life-cycle maintenance tasks;
- (U) a process to anticipate sustainment needs beyond the initial parts package for PATRIOT air defense systems transferred to the UAF;
- (U) a dependable supply system for ordering, shipping, and receiving replacement parts to sustain the PATRIOT air defense systems; or
- (U) the facilities necessary to perform the life-cycle sustainment activities, advanced maintenance tasks, or technical calibration of the PATRIOT air defense systems.

(U) Rather than establish a sustainment strategy that included the training, maintenance, supply, and facility components similar to the U.S. Army's LCSP for the PATRIOT air defense systems, officials from the AMC, AMCOM, and the Security Assistance Group–Ukraine (SAG-U) stated that DoD officials provided additional sustainment support to the UAF for the PATRIOT air defense systems on an "as requested" basis.

(U) This occurred because:

- (U) the DoD did not issue policy or guidance to DoD Components on the DoD's level of commitment or duration of effort to sustain the PATRIOT air defense systems transferred to the UAF,

[10] (U) IFMC project office officials stated that they sent an initial spares package to field the transferred PATRIOT air defense system configuration. Officials stated that they could not quantify how long those initial spares would last because consumption differs across parts.

- (U) PDA and the USAI do not include requirements for recurring sustainment and have only limited ability to provide funding beyond the current or next fiscal year, and
- (U) the DoD did not identify requirements, facilities, and processes to provide life-cycle support for PATRIOT air defense systems or components transferred to the UAF.

(U) Providing PATRIOT air defense systems to the UAF without a strategy for sustainment increases risks to both the DoD and Ukraine. Specifically, the UAF may not be able to independently sustain PATRIOT air defense systems, which increases the risk that Ukraine may not be able to deter or defend itself against Russian aggression. Additionally, the DoD cannot accurately predict enduring sustainment costs for PATRIOT air defense systems or assess the long-term impacts on DoD readiness. As a result, the DoD may need to commit more resources at significant cost to U.S. taxpayers to replenish DoD stocks and repair or replace damaged parts, or risk the DoD's ability to perform other critical missions.

(U) The DoD Did Not Develop a Sustainment Strategy for the PATRIOT Air Defense Systems

~~(CUI)~~ The DoD transferred PATRIOT air defense systems [redacted] to the UAF in April 2023 but did not provide for sustainment beyond basic training and initial supplies.[11] The components of a PATRIOT air defense system, included in Figure 1, require complex, frequent, and regular sustainment and replenishment to maintain their operational capabilities, in addition to any repairs due to use or battle damage. Without formalized training, infrastructure, technicians, materiel, logistics, and policy, sustaining the operational capability of these systems may present significant challenges for a partner nation, especially in austere or combat environments.

(U) The Office of the Assistant Secretary of Defense (Sustainment) (OASD[S]) created a draft Ukraine Sustainment Package Standardization Guide (the Standardization Guide) in January 2023 and a draft Concept of Support, dated February 2023. In addition, USEUCOM created a draft Ukraine Sustainment Strategy Implementation Plan (the Implementation Plan) dated May 2023. As discussed below, those documents remain in draft. OASD(S) officials stated that, at first, providing the equipment specified by the PDAs was a priority, rather than sustainment, and they began sustainment planning out of necessity, not as a result of any guidance. However, OASD(S) officials stated that they faced challenges in

[11] ~~(CUI)~~ [redacted]

(U) getting other DoD components to support development of policies for sustainment. Officials from the OASD(S) stated that they are incorporating information from each of those documents into a single document and anticipate publishing the consolidated document in late December 2023, but no draft of that consolidated document was available for our review.

(U) The PATRIOT Air Defense System Training Provided to the UAF Did Not Include Advanced Life-Cycle Maintenance Tasks

(U) The DoD provided PATRIOT air defense system operator and basic maintenance training to the UAF but did not provide training to address advanced maintenance tasks for a complex system. According to the Army's Redstone Arsenal website, the U.S. Army assigns approximately 90 trained Soldiers to a PATRIOT battery (the basic firing unit), including 3 Soldiers in the engagement control station, to operate the system in combat.[12] An ASA(ALT) official stated that operator-level training considerations were included in sustainment discussions and confirmed that the U.S. Army Fires Center of Excellence was responsible for PATRIOT air defense system training.

(U) We reviewed a U.S. Army Fires Center of Excellence document dated February 2023 that identified the operator and maintenance training modules provided to members of the UAF. Specifically, the training was adapted from existing PATRIOT air defense system training provided to U.S. forces. For example, the number of training weeks was reduced by splitting the topics into separate, concurrent courses to deliver the same amount of training in a shorter time. The training did not include any life-cycle sustainment tasks.

(U) DoD Officials Did Not Establish a Process to Anticipate UAF PATRIOT Sustainment Needs Beyond Initial Spares Packages

(U) The DoD provided an initial spares package to Ukraine without a process to anticipate subsequent sustainment needs. The PATRIOT air defense system is complex, and its multiple technical components have various sustainment requirements. However, the PDA execute order did not identify a specific amount of sustainment. DoD officials from the OUSD(P), OUSD(A&S), and Army stated that no process was established to determine sustainment needs or provide additional supplies beyond the initial spares packages, and each office had a different perception for the length of time the initial spares should support. An OUSD(P) official stated that the process for identifying sustainment requirements consisted of email exchanges among stakeholders. DoD working groups, such as the CDWG, assumed that the Services complied with life-cycle support requirements and did

[12] (U) U.S. Army Aviation and Missile Life Cycle Management Command website, "PATRIOT," October 26, 2023.

(U) not discuss these requirements once PDA execute orders were published. OUSD(P) officials stated that AMCOM and the ASA(ALT) were responsible for implementing a "total package approach," as described in the DSCA's SAMM. These same OUSD(P) officials stated that at least 90 days of spares and maintenance is an assumed requirement, but no standardized process exists for identifying and validating sustainment requirements at the DoD level. In contrast, the DSCA Handbook for Foreign Assistance Act Drawdown of Defense Articles and Services states that the target for spare parts should be a 1-year package.[13]

(U) While officials from the OUSD(A&S) stated that the CDWG discussion was intended to anticipate sustainment challenges, those officials also stated that no sustainment strategy was developed. OUSD(A&S) officials stated that they deferred development and validation of sustainment requirements to the Services. The same officials stated that no formal guidance was issued regarding 90-day sustainment packages or for sustainment beyond 90 days. Because OASD(S) officials recognized the need for formal guidance, OASD(S) officials created a draft Standardization Guide to standardize packages for PDAs and for use by leadership as a decision support tool in providing for sustainment needs and discussing risk. The Standardization Guide defines elements of support but does not include a time period for sustainment. An OASD(S) official stated that the DoD did not implement the Standardization Guide for any transferred items.

(U) Army officials agreed that no process was established to anticipate sustainment for the PATRIOT air defense systems. Army officials stated that stakeholders discussed requirements for PDA and USAI items, but sustainment planning was purely demand based. No guidance existed for requirements or length of support, and program offices were simply giving all available resources to Ukraine to meet near-term requirements. Army spreadsheets used to support the initial PDAs contained a header that directed consideration of parts and supplies for 1 year, but AMC officials stated that only early spreadsheets contained that header. Stakeholders used these spreadsheets to finalize requirements prior to execute order publication, and AMC officials used the execute orders to begin processing, planning shipment of, and identifying critical spares.

~~(CUI // REL USA, UKR)~~ An AMC official stated that the AMC conducts a running needs analysis as required based on operational tempo changes in Ukraine but not on a periodic or rhythmic schedule and not with the level of detail needed. That AMC official provided notes from the AMC's strategic sustainment meetings with U.S. Army Europe and Africa that outline known and anticipated theater requirements. An AMCOM official stated that a single contract for remote maintenance support was initiated in February 2023 for a period of 12 months,

[13] (U) DSCA, "Handbook for Foreign Assistance Act (FAA) Drawdown of Defense Articles and Services," June 2004.

~~(CUI // REL USA, UKR)~~ [redacted] An official from the Office of Defense Cooperation in Kyiv stated that their office knowingly excluded PATRIOT spare parts because the Office of Defense Cooperation in Kyiv planned to establish a separate request for PATRIOT air defense system sustainment needs; however, he could not supply any additional information or evidence of this proposed package.

(U) Officials Did Not Establish a Supply System That Anticipates UAF PATRIOT Air Defense System Sustainment Requirements

(U) Although officials from the OUSD(P) stated that the default answer from a security assistance perspective would be to provide life-cycle sustainment for equipment transferred to the UAF, the DoD did not establish a supply system that anticipates or provides sustainment for the PATRIOT air defense systems. As discussed above, an OUSD(P) official stated that 90 days of spares and maintenance support was assumed for U.S.-provided equipment, and anything beyond that was left to implementing agencies.[14] A Program Executive Office for Missiles and Space document dated April 2023 stated that PATRIOT air defense system maintenance was supported by tele-maintenance, and the document further stated that no materiel management or sustainment implementation strategies existed. An AMCOM official stated that several PATRIOT parts require 36 months or more for production and delivery, but sustainment planning to support Ukraine did not include this lead time.

~~(CUI // REL USA, UKR)~~ An Office of Defense Cooperation official stated that, as of November 2023, the USEUCOM Implementation Plan remained in draft. [redacted] The Office of Defense Cooperation official did not know whether the Implementation Plan would be finalized or implemented.

[14] (U) The Army is the implementing agency for PATRIOT air defense systems.

[15] (U) Additive manufacturing is also known as three-dimensional (3D) printing, a process of joining materials to make parts from 3D model data, usually layer by layer. Additive manufacturing can be used to build parts that cannot be made any other way, uniquely combine materials, produce obsolete parts, rapidly prototype, and create tools and specialized job aids.

(U) PDA Does Not Include Sustainment Requirements, and the DoD Did Not Provide Supplemental Policy or Guidance

(U) DoD officials did not develop a strategy for the life-cycle sustainment of the PATRIOT air defense systems provided to Ukraine because the PDA used to transfer the PATRIOT air defense systems does not include requirements for ongoing sustainment, and the DoD did not issue specific guidance to establish the scope and time frame for security assistance provided to Ukraine. Officials from DoD Components had differing responses on how much assistance the DoD will provide to Ukraine and for how long and described challenges for providing sustainment under existing authorities.

~~(CUI)~~ [redacted]

(U) OUSD(A&S) officials stated that their office is responsible for providing policy that supports sustainment of equipment delivered to the UAF and ensuring that sustainment is in place. However, OUSD(A&S) officials stated that they have not published any strategy documents or developed a sustainment strategy, even though OUSD(A&S) representatives to the CDWG identified potential challenges to sustainment. An OUSD(A&S) official stated that the OUSD(A&S) also deferred to the Services, in this case the Army, to address sustainment for equipment being transferred, including the PATRIOT air defense systems.

(U) While the PATRIOT air defense system has an LCSP, the LCSP does not include procedures for sustainment of systems transferred to other countries through PDA or the USAI. An AMC official stated that they were not given any guidance regarding whether to replace items continuously or to await subsequent requests from Ukraine after items were depleted, and officials based demand forecasting and analysis on U.S. Combat Training Center data. A Headquarters, Department of the Army (HQDA) official confirmed that operational tempo planning factors were deferred to program offices. A Security Assistance Management Directorate (SAMD) official expressed concern that long-term sustainment will not be addressed until the support already provided is nearly exhausted.

(U) AMCOM officials stated that, while AMCOM held numerous meetings with stakeholders, no specific guidance exists for sustainment in terms of requirements or timing; it is simply demand based. A SAG-U official concurred, stating that SAG-U operates based on needs and does not use any formal written policy or procedures. While OUSD(A&S) officials acknowledged that they have not published any strategy documents, the OASD(S) did prepare a briefing in July 2022 that contains a single-page Long-Term Ukraine Sustainment Framework for equipment transferred to Ukraine. That briefing described the current state of sustainment and established a desired state for sustainment, including maintenance planning, supply management, and facilities operations, but did not identify a time line or target date.

~~(CUI)~~ Multiple documents from DoD organizations that we reviewed discussed the need for sustainment for equipment transferred to the UAF, but the documents were not finalized or published. [redacted] As previously stated, in January 2023, the OASD(S) developed the draft Standardization Guide. An OASD(S) official stated that, if a documented risk or concern arises, the DoD wanted to have some type of follow-on for resolution of those risks and concerns. The Standardization Guide did not address appropriate levels or time frame for sustainment or the UAF's ability to provide maintenance, and the Standardization Guide was never implemented.

~~(CUI)~~ As also previously mentioned, [redacted]. Therefore, the USD(P), in coordination with the USD(A&S), should develop and implement a sustainment strategy for PATRIOT air defense systems transferred to the UAF.

(U) PDA Does Not Include Funding for Recurring Sustainment

(U) The DoD transferred PATRIOT air defense systems to the UAF through the PDA process, which does not include funding or requirements for recurring sustainment. OUSD(P) officials explained that capabilities transferred through PDA may be filled using equipment being phased out, and sustainment is not as robust. However, the DoD is not currently phasing out the PATRIOT air defense systems. An OUSD(P) official stated that sustainment for the PATRIOT air defense systems beyond initial spares and initial contractor logistics support has to be done through the USAI because PDA does not include funding or requirements for recurring sustainment.

(U) While the USAI does not specify how much sustainment should be included, USAI packages are supposed to be built using the total package approach described in the SAMM. The OUSD(P) official stated that, for USAI-transferred equipment, spares and maintenance are written specifically into each USAI case, with a general rule of at least 90 days for U.S.-provided equipment, and implementing agencies must further refine the requirements. In contrast, ASA(ALT) officials stated that, with FMS packages for example, the total package approach would normally include 2 years of sustainment. Officials from SAMD explained that, with FMS, the partner countries provide the funding, so the funds do not "expire," whereas the USAI process uses U.S. funding, and obligating funds has a time line.

(U) Officials Used Existing Processes to Meet Urgent Demand

(U) AMCOM officials stated that, although Ukraine was not a "normal" FMS scenario, AMCOM used preexisting FMS procedures to determine sustainment requirements for PATRIOT air defense systems transferred to the UAF. AMCOM officials further stated that preexisting procedures did not always directly apply, and, in those instances, they consulted AMC leadership for help. However, AMC officials did not implement any new, formal processes.

(U) An official from SAMD stated that use of PDAs created a dynamic that allows stakeholders to forego processes and instead react to urgency. An ASA(ALT) official agreed that the speed of support to Ukraine resulted in non-standard equipment transfers and sustainment requirements. During our interviews, several DoD officials suggested that, moving forward, the DoD should consider using FMS for support to Ukraine to meet strategic goals. Therefore, the OUSD(P), in coordination with the OUSD(A&S), should determine whether current processes should be adapted or additional processes should be identified or developed to provide funding for sustainment of the PATRIOT air defense systems transferred to the UAF. Further, the OUSD(P) should develop and implement new or revised processes as warranted.

(U) The DoD Did Not Establish Facilities to Provide Life-Cycle Sustainment of PATRIOT Air Defense Systems Transferred to the UAF

(U) Although the PATRIOT air defense system LCSP recommends establishing a depot-forward activity for sustainment, the DoD did not establish or identify a similar capability for the PATRIOT air defense systems transferred to the UAF.[16] The LCSP for the PATRIOT air defense system states that the PATRIOT is an

[16] (U) AR 750-1 establishes two levels of Army maintenance: field maintenance and sustainment (or depot) maintenance. Field maintenance is fundamentally driven by operator- and crew-level preventive maintenance checks and services. Sustainment, or depot, maintenance is defined as secure maintenance supported by trained personnel with requisite tools and equipment.

(U) extremely complex system and that, for U.S. forces, a depot-forward activity was established to support limited repairs to restore PATRIOT air defense systems to an operational condition.

(U) However, the DoD did not establish similar facilities for maintenance and repair of PATRIOT air defense systems transferred to the UAF. The draft Standardization Guide developed by the OUSD(A&S) did not include levels of maintenance considerations for facilities. A U.S. Army Program Executive Office for Missiles and Space official stated that the sustainment packages the AMC discussed supported field-level maintenance but not higher levels of maintenance.

~~(CUI)~~ As of June 2023, an ASA(ALT) official assessed that sustainment of equipment transferred to the UAF was still focused on field-level maintenance and spares, higher levels of maintenance were not yet feasible, and the current emphasis was on field-level tele-maintenance. [redacted] The same AMCOM official stated that AMCOM assumed that transferred PATRIOT air defense systems subsequently belong to Ukraine, and depot-specific maintenance was not expected.

~~(CUI // REL USA, UKR)~~ [redacted] In a June 2023 ODASD(MR) working group, a SAG-U representative stated that the RDC-U cannot support depot-level repairs. [redacted] Therefore, USEUCOM, in coordination with the OUSD(A&S), should identify requirements, facilities, and processes to provide life-cycle support for PATRIOT air defense systems or components transferred to the UAF.

(U) Lack of a Sustainment Strategy Increases Risks to U.S. Readiness and the Ability to Accomplish National Security Objectives

~~(CUI)~~ Providing PATRIOT air defense systems to the UAF without a strategy for sustainment increases risks to both Ukraine and the DoD. As discussed previously, the UAF may not be able to independently sustain PATRIOT air defense systems, which increases the risk that Ukraine may not be able to deter or defend itself against Russian aggression. [redacted]

~~(CUI)~~ [redacted] In May 2023, AMC leadership directed a 10-percent increase for the top 25 "readiness drivers" (the top 25 items required to support PATRIOT air defense system readiness).[17] As a result, AMC projections showed a leveling of demand and production in FY 2025, but an official stated that increased demand could change those projections. An HQDA G-3/5/7 (Fires) official emphasized production demand challenges and associated risk, noting that the PATRIOT program supports a dozen partners.

~~(CUI)~~ An AMCOM official stated that transferred PATRIOT air defense systems were sourced from training installations to reduce impacts to U.S readiness. An HQDA G-3/5/7 (Fires) official stated that any further demand for PATRIOT air defense systems would be "painful," and HQDA G-3/5/7 (Fires) was maintaining "IOUs" for units that were shorted equipment. An HQDA G-3/5/7 (Fires) official stated [redacted] Officials from the Office of the Deputy Assistant Secretary of Defense (Force Readiness) stated that their office is in the process of assessing long-term readiness and sustainment as part of its first annual Strategic Readiness Review. The Strategic Readiness Review is currently in coordination with no time line for publication.

(U) Recommendations, Management Comments, and Our Response

(U) As a result of management comments, we revised Recommendation 1 to direct primary responsibility to the USD(P), in coordination with the USD(A&S), in accordance with DoDD 5111.01 and DoDD 5135.02 responsibilities, functions, relationships, and authorities.

(U) Revised Recommendation 1

(U) We recommend that the Under Secretary of Defense for Policy, in coordination with the Under Secretary of Defense for Acquisition and Sustainment, develop and implement a sustainment strategy for PATRIOT air defense systems transferred to the Ukrainian Armed Forces.

[17] (U) The "Top 25 Readiness Drivers" list is a yearly critical items list coordinated through the Army with the equipment manufacturer and the industrial base.

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

(U) Both the USD(A&S) and the Acting USD(P) partially agreed with our recommendation, and suggested that we redirect Recommendation 1 in accordance with DoD directives. In accordance with responsibilities and functions, relationships, and authorities in DoDD 5111.01 and DoDD 5135.02, the USD(A&S) and the Acting USD(P) recommended that this recommendation be redirected as follows, to reflect the responsibilities as per these directives: "We recommend that the USD(P), in coordination with the USD(A&S), develop and implement a sustainment strategy for PATRIOT air defense systems transferred to the UAF." The USD(A&S) and the Acting USD(P) agreed to provide an action plan by February 29, 2024, to address the sustainment strategy for the PATRIOT air defense systems transferred to the UAF.

Our Response

(U) Comments from the USD(A&S) and the Acting USD(P) meet the intent of the recommendation. The suggested revision by the USD(A&S) and the Acting USD(P) did not change the substance of our recommendation. Therefore, we revised our recommendation as suggested, and consider this recommendation resolved but open. We will close the recommendation when we receive documentation that demonstrates that the DoD developed and implemented a sustainment strategy for PATRIOT air defense systems transferred to the UAF.

(U) Recommendation 2

(U) We recommend that the Under Secretary of Defense for Policy, in coordination with the Under Secretary of Defense for Acquisition and Sustainment, determine whether current processes should be adapted, or additional processes should be identified or developed, to provide funding for sustainment of the PATRIOT air defense systems transferred to the Ukrainian Armed Forces. Further, the Under Secretary of Defense for Policy should develop and implement new or revised processes as warranted.

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

(U) Both the USD(A&S) and the Acting USD(P) partially agreed with our recommendation. The USD(A&S) and the Acting USD(P) stated that, under existing processes and available authorities, funding was routinely provided in FY 2023 to sustain the PATRIOT air defense system, as well as other defense articles provided under PDA. The USD(P) established the CDWG to identify requirements that inform security assistance provided to the UAF. The USD(P) adapts this process as

(U) necessary to thoroughly define sustainment requirements for those articles provided to Ukraine under PDA, acknowledging the recipient nation may be constrained in its ability to define and meet these responsibilities in the current security environment. The USD(A&S) and the Acting USD(P) agreed to provide an action plan by February 29, 2024, that will address the processes involved to identify and provide sustainment funding to meet all aspects of support required.

(U) Our Response

(U) Comments from the USD(A&S) and the Acting USD(P) met the intent of the recommendation to assess the sustainment funding processes to meet all aspects of support required; therefore, this recommendation is resolved but open. We will close the recommendation when we receive documentation that demonstrates that the DoD addressed the processes to identify and provide sustainment funding to meet all aspects of support required for PATRIOT air defense systems transferred to the UAF.

(U) Recommendation 3

(U) We recommend that the Commander of the U.S. European Command, in coordination with the Under Secretary of Defense for Acquisition and Sustainment, identify requirements and facilities to provide life-cycle support to sustain PATRIOT air defense systems or components transferred to the Ukrainian Armed Forces.

(U) Under Secretary of Defense for Acquisition and Sustainment, Acting Under Secretary of Defense for Policy, and U.S. European Command Comments

(U) The USD(A&S), the Acting USD(P), and the USEUCOM Deputy Director, J-5 Directorate, responding on behalf of the USEUCOM Commander, agreed with the recommendation.

(U) Our Response

(U) Comments from the USD(A&S), the Acting USD(P), and the USEUCOM J-5 Deputy Director, addressed the specifics of the recommendation; therefore, the recommendation is resolved but open. We will close the recommendation when we receive documentation that demonstrates that the USEUCOM Commander, in coordination with the USD(A&S), identified requirements and facilities to provide life-cycle support to sustain PATRIOT air defense systems transferred to the UAF.

(U) Appendix

(U) Scope and Methodology

(U) We conducted this evaluation from March 2023 through November 2023 in accordance with "Quality Standards for Inspection and Evaluation," published in December 2020 by the Council of the Inspector General on Integrity and Efficiency. Those standards require that we adequately plan the evaluation to ensure that objectives are met and that we perform the evaluation to obtain sufficient, competent, and relevant evidence to support the findings, conclusions, and recommendations. We believe that the evidence obtained was sufficient, competent, and relevant to lead a reasonable person to sustain the findings, conclusions, and recommendations.

(U) This report was reviewed by the DoD Components associated with this oversight project to identify whether any of their reported information, including legacy FOUO information, should be safeguarded and marked in accordance with the DoD CUI Program. In preparing and marking this report, we considered any comments submitted by the DoD Components about the CUI treatment of their information. If the DoD Components failed to provide any or sufficient comments about the CUI treatment of their information, we marked the report based on our assessment of the available information.

(U) The scope of this evaluation included the DoD's planning and execution of a comprehensive strategy to sustain mission capability for air defense systems provided to the UAF from August 27, 2021, (the date of the first Presidential Determination) through September 7, 2023, in accordance with DoD guidance and policy. The scope includes policies and procedures that dictate or prescribe sustainment strategies for the selected air defense capabilities, as well as current and future plans for the DoD to provide continuing sustainment support to the UAF for current and future air defense capabilities transferred. Our original objective focused on the sustainment at the intermediate or depot level of selected air defense capabilities transferred to the UAF, including air defense weapons systems (the Stinger, HAWK, NASAMS, and PATRIOT); C-UASs; sensors; and communication, command, and control equipment associated with the listed systems.

(U) During the course of our evaluation, we narrowed our scope to focus on the sustainment of the PATRIOT air defense systems. We made this change based on the limited sustainment needs for the Stinger, HAWK, and C-UAS systems and the atypical contractor or partner nation support for the NASAMS.

(U) To perform this evaluation and achieve our objective, we reviewed and analyzed the following criteria to determine the requirements for the sustainment of air defense systems.

- (U) DoDD 4151.18, "Maintenance of Military Materiel," August 2018.
- (U) DoDD 5100.01, "Functions of the Department of Defense and Its Major Components," December 2010 (Incorporating Change 1, September 2020).
- (U) DoDD 5132.03, "Policy and Responsibilities Relating to Security Cooperation," December 2016.
- (U) DoD Instruction (DoDI) 4140.01, "DoD Supply Chain Materiel Management Policy," March 2019.
- (U) DoDI 4151.22, "Condition-Based Maintenance Plus for Materiel Maintenance," August 2020.
- (U) DoD Manual (DoDM) 4140.01, "DoD Supply Chain Materiel Management Procedures: Demand and Supply Planning," volume 2, November 2018.
- (U) DoDM 4151.22-M, "Reliability Centered Maintenance," August 2018.
- (U) DSCA Manual 5105.38-M, "Security Assistance Management Manual," April 30, 2012 (as updated).
- (U) DSCA Handbook-1, "Foreign Assistance Act Drawdown of Defense Articles and Services," June 2004.
- (U) Joint Publication (JP) 3-01, "Countering Air and Missile Threats," May 2018.
- (U) JP 4-0, "Joint Logistics," October 2013.
- (U) JP 4-09, "Distribution Operations," February 2010.
- (U) Army Doctrine Publication 4-0, "Sustainment," July 2019.
- (U) AR 750-1, "Army Materiel Maintenance Policy," March 2023.
- (U) Army Technical Publication (ATP) 3-01.94, "Army Air and Missile Defense Command Operations," April 2016.
- (U) ATP 4-33, "Maintenance Operations," July 2019.
- (U) ATP 4-42, "Materiel Management, Supply, and Field Services Operations," November 2020.
- (U) ATP 4-94, "Theater Sustainment Command," June 2013.
- (U) Army Field Manual 4-0, "Sustainment Operations," July 2019.
- (U) IFMC, "Phased Array Tracking Radar to Intercept of Target (PATRIOT) System–ACAT 1C Life-Cycle Sustainment Plan," Version 2, January 30, 2023, and Annexes.

- (U) Program Executive Office for Missiles and Space, "Life-Cycle Sustainment Plan for Stinger Missile System," Version 2.0, October 29, 2019.

(U) We obtained and reviewed information from requests for information to identify roles and responsibilities for sustainment planning and implementation. We also requested relevant policy and guidance for sustainment for the selected air defense systems as used by the U.S. military.

(U) We interviewed representatives from the OUSD(P), the OUSD(A&S), the AMC, the DSCA, SAMD, SAG-U, the ASA(ALT), HQDA G-3/5/7 (Fires), the Office of the Deputy Assistant Secretary of Defense (Force Readiness), the Integrated Fires Missile Command program manager, and the U.S. Air Force 645th Aeronautical Systems Group to:

- (U) determine roles and responsibilities for development of sustainment strategies for the selected air defense systems used by the United States and any planning, development, or implementation requirements for sustainment for the selected air defense systems transferred to Ukraine;
- (U) identify any additional offices or organizations responsible for sustainment planning and implementation for air defense systems transferred;
- (U) identify any challenges or issues that the U.S. military or other DoD organizations experienced with sustainment plans and supply for the selected air defense systems; and
- (U) determine whether and how the offices or organizations responsible for sustainment planning are mitigating or addressing these challenges or issues.

(U) Previously, the DoD Office of Inspector General (OIG) announced "Evaluation of the Security Assistance Group–Ukraine's Sustainment Strategies for Selected Weapon Systems Transferred to the Government of Ukraine." We reviewed information collected by that team and participated in joint interviews during this evaluation.

(U) We analyzed the evidence collected regarding sustainment for air defense capabilities provided to Ukraine to determine the extent to which the DoD developed and implemented sustainment strategies in support of the PATRIOT air defense systems transferred to the UAF. In addition, we:

- (U) collected and analyzed sustainment implementation policy and guidance for the selected air defense systems, such as technical manuals, standard operating procedures, and LCSPs;

- (U) collected, reviewed, and analyzed evidence of sustainment implementation, including munitions, spare parts, repair equipment, maintenance, and training, as well as locations identified for conducting sustainment efforts and success metrics to support the air defense systems transferred to the UAF;
- (U) identified challenges and issues at the operational level with either past or future sustainment and supply for the selected air defense systems; and
- (U) identified whether and how these challenges are being addressed.

(U) We analyzed the documentary and testimonial evidence collected to determine the extent to which the DoD developed and implemented sustainment strategies to support the selected air defense systems transferred to the UAF in accordance with each system's operational requirements.

(U) Computer-Processed Data

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

(U) Prior Coverage

(U) During the last 5 years, the GAO and the DoD OIG issued three reports discussing the DoD's development and implementation of sustainment planning efforts for weapon systems. 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) DoD OIG

(U) Report No. DODIG-2022-103, "Audit of the Department of Defense's Implementation of Predictive Maintenance Strategies to Support Weapon System Sustainment," June 15, 2022.

(U) The DoD OIG found that DoD officials made progress toward execution of predictive maintenance strategies but did not fully implement predictive maintenance on any of its weapon systems. The report also found that DoD officials did not develop comprehensive strategic plans, policies, or training tailored to appropriate levels in the life-cycle sustainment workforce necessary to implement predictive maintenance strategies. The report recommended that the ODASD(MR) develop and execute a mechanism to report and provide visibility of predictive maintenance forecasts. The report also recommended that the ODASD(MR) continue updating and distributing the DoD's "Condition-Based Maintenance Plus Guidebook" to reflect updated guidance. The ODASD(MR) agreed with those recommendations.

(U) The DoD OIG is currently conducting an evaluation of the DoD's sustainment plan for Bradley, Stryker, and Abrams armored weapon systems transferred to the Ukrainian Armed Forces (Project No. D2023-DEV0PC-0089.000).

(U) The DoD Office of Inspector General is currently conducting an audit of the DoD's controls for validating and responding to Ukraine's requests for military equipment and assistance (Project No. D2023-D000RH-0034.000).

(U) GAO

(U) Report No. GAO 23-105556, "Actions Needed to Further Implement Predictive Maintenance on Weapon Systems," December 2022.

(U) The GAO found that the Military Services made limited progress implementing the interim predictive maintenance policy that the DoD issued in 2002. In 2007, the DoD instructed the Military Services to designate a single focal point for predictive maintenance, provide funding, and begin implementing predictive maintenance to achieve readiness at the best cost where it is technically feasible and beneficial. While the Military Services began piloting predictive maintenance programs on some weapon systems, they do not replace parts or components regularly based on predictive maintenance forecasts. The GAO found that the Military Services did not consistently adopt and track implementation of predictive maintenance. By developing plans to implement predictive maintenance, including action plans and milestones for weapon systems, the Military Services would be better positioned to determine where, when, and how to effectively adopt predictive maintenance.

(U) The Military Services reported examples of how predictive maintenance improved maintenance outcomes. According to Military Service officials, unplanned maintenance, which adversely affects costs and operations, can be reduced through greater use of predictive maintenance. Army and Navy officials also provided examples of predictive maintenance possibly preventing accidents on aircraft. The GAO made 16 recommendations to the Army, Marine Corps, Navy, and Air Force to develop plans to implement predictive maintenance and assess its performance. The DoD generally concurred with the recommendations.

(U) Report No. GAO 18-447, "Analysis of Maintenance Delays Needed to Improve Availability of PATRIOT Equipment for Training," June 2018.

(U) The GAO found that the Army uses reset and recapitalization to extend the life of its PATRIOT surface-to-air missile system. The reset process, which is intended to repair recently deployed equipment, often returned equipment to PATRIOT units late, which affected unit training. The GAO found that, of the seven PATRIOT battalions that underwent reset from FY 2014 through FY 2017, only one received its equipment within 180 days, in accordance with Army policy. PATRIOT unit officials told the GAO that such delays reduced the time available for unit training, creating challenges in meeting training requirements as units prepare for their next mission.

(U) The Army decided to recapitalize each battalion set of PATRIOT equipment once every 15 years to support the system's long-term viability through 2048. However, Army officials told the GAO that the current pace of recapitalization is not optimal and could introduce challenges, such as the possibility of equipment failure and increased maintenance costs. The GAO recommended that the Army conduct an analysis of the primary factors affecting the PATRIOT program's reset timeliness to identify the relative importance of the factors and develop and implement appropriate corrective actions. The Department of the Army concurred with the GAO's recommendation.

(U) Management Comments

(U) OUSD(A&S) and OUSD(P)

MEMORANDUM FOR ASSISTANT INSPECTOR GENERAL FOR EVALUATIONS AND PROGRAMS, OFFICE OF THE DEPARTMENT OF DEFENSE INSPECTOR GENERAL

5 JAN 2024

SUBJECT: (U) Response to the Department of Defense Inspector General Draft Evaluation of Sustainment Strategies for the PATRIOT Air Defense Systems Transferred to the Ukrainian Armed Forces (Project No. D2023-DEV0PC-0096.000)

(U) We are responding to the report recommendations contained within the draft version of the subject report, dated November 21, 2023. This response has been coordinated at the Director level, U.S. European Command.

(U) The Department of Defense (DoD) continues to view the sustainment of United States (U.S.) -provided equipment to Ukraine as a top priority to ensure that both Ukraine's defenders, and American taxpayers, are receiving the maximum value from our security assistance. We are therefore appreciative of this independent look at sustainment efforts for Patriot air defense systems transferred to the Ukrainian armed forces (UAF).

(U) It is important to note that long-standing DoD policy and regulations regarding the sustainment of security assistance were not envisioned for use in a scenario in which U.S. maintainers are not able to service equipment in-country, while a recipient nation is at war. As such, DoD issued new guidance for the sustainment of the defense articles under an accelerated security assistance decision cycle for Ukraine, which also required subordinate organizations to meet these requirements urgently while still adjusting their organizations to adapt to these policies. The sustainment of these systems provided to Ukraine in this situation offers broader lessons about roles and responsibilities for all parties involved for all sustainment requirements of defense articles that become the property of any recipient nation upon transfer. We continue to assess and update this guidance to reflect lessons learned from our sustainment programs, as well as based on evolving conditions in Ukraine.

(U) Recommendation 1: We recommend that the Under Secretary of Defense for Acquisition and Sustainment, in coordination with the Under Secretary of Defense for Policy, develop and implement a sustainment strategy for PATRIOT air defense systems transferred to the Ukrainian Armed Forces.

(U) DoD response: Partially concur. In accordance with responsibilities and functions, relationships, and authorities of Under Secretary of Defense for Policy and Under Secretary of Defense for Acquisition and Sustainment in DoDD 5111.01 and DoDD 5135.02, respectively, DoD recommends that the recommendation be reworded to reflect the responsibilities as per these directives, such as:

"We recommend that the Under Secretary of Defense for Policy, in coordination with the Under Secretary of Defense for Acquisition and Sustainment, develop and implement a sustainment strategy for PATRIOT air defense systems transferred to the UAF."

(U) OUSD(A&S) and OUSD(P) (cont'd)

(U) Recommendation 2: We recommend that the Under Secretary of Defense for Policy, in coordination with the Under Secretary of Defense for Acquisition and Sustainment, determine whether current processes should be adapted, or additional processes should be identified or developed, to provide funding for sustainment of the PATRIOT air defense systems transferred to the Ukrainian Armed Forces. Further, the Under Secretary of Defense for Policy should develop and implement new or revised processes as warranted.

(U) DoD response: Partially concur. Under existing processes and available authorities, funding was routinely provided in Fiscal Year 2023 to sustain the Patriot air defense system, as well as other defense articles provided under Presidential Drawdown Authority (PDA). The Office of the Under Secretary of Defense for Policy established the Cross-Department Working Group to identify requirements that inform security assistance provided to the UAF. We adapt this process as necessary to thoroughly define sustainment requirements for those articles provided to Ukraine under PDA, acknowledging the recipient nation may be constrained in its ability to define and meet these responsibilities in the current security environment.

(U) Recommendation 3: We recommend that the Commander of the U.S. European Command, in coordination with the Under Secretary of Defense for Acquisition and Sustainment, identify requirements and facilities to provide life-cycle support to sustain PATRIOT air defense systems or components transferred to the Ukrainian Armed Forces.

(U) DoD response: DoD concurs with this recommendation.

(U) For the appropriate recommendations above, DoD will follow up with DoDIG and provide an action plan by February 29, ~~2023~~ 2024, to address the sustainment strategy for the PATRIOT air defense system, which will address the processes involved to identify and provide sustainment funding to meet all aspects of support required.

William A. LaPlante
Under Secretary of Defense
Acquisition and Sustainment

Sasha N. Baker
Acting Under Secretary of Defense
Policy

2

(U) USEUCOM

UNCLASSIFIED

UNITED STATES EUROPEAN COMMAND
UNIT 30400
APO AE 09131

ECJ-5 2 January 2024

MEMORANDUM FOR DEPARTMENT OF DEFENSE INSPECTOR GENERAL

SUBJECT: EUCOM Concurrence with Response to the Department of Defense Inspector General Draft Evaluation of Sustainment Strategies for the PATRIOT Air Defense Systems Transferred to the Ukrainian Armed Forces (Project No. D2023-DEV0PC-0096.000)

Reference: Department of Defense Inspector General Draft Evaluation of Sustainment Strategies for the PATRIOT Air Defense Systems Transferred to the Ukrainian Armed Forces (Project No. D2023-DEV0PC-0096.000)

1. Recommendation 3: We recommend that the Commander of the U.S. European Command, in coordination with the Under Secretary of Defense for Acquisition and Sustainment, identify requirements and facilities to provide life-cycle support to sustain PATRIOT air defense systems or components transferred to the Ukrainian Armed Forces.

EUCOM response: EUCOM concurs with this recommendation.

2. Point of contact for this waiver request is [redacted]

TERRELL.BRYON [redacted] Digitally signed by TERRELL.BRYON [redacted] Date: 2024.01.11 18:57:54 +01'00'

BRYONY A. TERRELL
Brig Gen, USAF
Deputy Director

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(U) Acronyms and Abbreviations

AMC	U.S. Army Materiel Command
AMCOM	U.S. Army Aviation and Missile Command
ASA(ALT)	Assistant Secretary of the Army (Acquisition, Logistics, and Technology)
CDWG	Cross-Department Working Group
C-UAS	Counter-Unmanned Aerial System
DSCA	Defense Security Cooperation Agency
USEUCOM	U.S. European Command
FMS	Foreign Military Sales
HAWK	Homing All the Way Killer
HQDA	Headquarters, Department of the Army
IFMC	Integrated Fires Mission Command
LCSP	Life-Cycle Sustainment Plan
NASAMS	National Advanced Surface-to-Air Missile System
OASD(S)	Office of the Assistant Secretary of Defense (Sustainment)
OIG	Office of Inspector General
OUSD(A&S)	Office of the Under Secretary of Defense for Acquisition and Sustainment
OUSD(MR)	Office of the Deputy Assistant Secretary of Defense (Materiel Readiness)
OUSD(P)	Office of the Under Secretary of Defense for Policy
PATRIOT	Phased Array Tracking Radar for Intercept on Target
PDA	Presidential Drawdown Authority
RDC-U	Remote Distribution and Maintenance Center–Ukraine
SAG-U	Security Assistance Group–Ukraine
SAMD	Security Assistance Management Directorate
SAMM	Security Assistance Management Manual
UAF	Ukrainian Armed Forces
USAI	Ukraine Security Assistance Initiative
USD(A&S)	Under Secretary of Defense for Acquisition and Sustainment
USD(P)	Under Secretary of Defense for Policy
USEUCOM	U.S. European Command


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