

OCT 24 2014



**U.S. Customs and  
Border Protection**

MEMORANDUM FOR: The Honorable John Roth  
Inspector General

FROM: Eugene H. Schied  
Assistant Commissioner  
Office of Administration

SUBJECT: OIG Draft Report: "U.S. Customs and Border Protection's  
Unmanned Aircraft System Program Does Not Achieve Intended  
Results or Recognize All Costs of Operations" (Project Number  
13-135-AUD-DHS)

U.S. Customs and Border Protection (CBP) thanks the Department of Homeland Security (DHS) Office of the Inspector General (OIG) for the opportunity to review and comment on this draft Report.

CBP disagrees with the draft OIG Report's portrayal of the program's effectiveness; the Report's analysis of cost and cost per flight hour (CPFH)—which is based on OIG's misapplication of Office of Management and Budget (OMB) Circular A-126, "Improving the Management and Use of Government Aircraft" (OMB A-126); and the Report's misinterpretation that Office of Air and Marine (OAM) plans to expand the Unmanned Aircraft System (UAS) fleet to 24 aircraft. While the title and content of the Report state the CBP UAS program has not achieved the intended results, CBP has achieved or exceeded all relevant performance expectations.

CBP also disagrees with the methodology used to calculate CPFH to reach the Report's conclusions, and with the Report's interpretation of OMB A-126—as it includes fixed costs for aircraft owned and operated by the government, when the circular specifically states variable costs should be used. In addition, the OIG Report inaccurately states that OAM plans to procure 14 more unmanned aircraft, when in fact, CBP's plan is to enhance the UAS program's infrastructure and achieve a greater utilization of its existing fleet.

To offer a more accurate and comprehensive picture of the CBP UAS program's effectiveness, costs, and acquisition plans, CBP takes this opportunity to provide additional context and details that pertain to the draft OIG Report's findings and conclusions that appear to have been overlooked by OIG in assessing the information provided by CBP during this audit.

**Unmanned Aircraft Systems (UAS) Program Effectiveness**

CBP believes the OIG Report should include quantitative and qualitative information which better represents the current performance of the CBP UAS program. This information was

provided to OIG during the review. There have been countless successful CBP missions over the years in which UAS capabilities and resulting products have contributed significantly to the successful investigation, dismantling, and disrupting of criminal enterprises and organizations. The CBP UAS has also collected on numerous intelligence targets, and supported other Federal, State, and local agencies in various capacities, all of which are successful utilizations of the UAS.

Contrary to the implications in the Report, CBP's OAM has achieved the majority of the performance expectations identified in the 2010 Concept of Operations (CONOPS). These milestones, some which have been achieved ahead of the forecasted timeframe, include objectives for supporting a full range of mission sets; operating over land borders, over littoral waters, and in international waters; providing data to intra and interagency information networks; working with the Federal Aviation Administration to expand access to the National Airspace System; performance capabilities, including operation of interchangeable sensor payloads, and performance of long endurance missions; serving as a test platform for other agency technology projects; and modernizing the OAM UAS through block upgrades. In addition, CBP is currently in the process of updating the UAS CONOPS, which will include performance measures that represent the system's effectiveness.

Other CBP UAS program achievements that the draft OIG Report does not recognize include seizure statistics along the Southwest Border and during Transit Zone operations. During Fiscal Year (FY) 2013, CBP's UAS program directly contributed to the seizure of 49,447 pounds (with a value of \$122 million) of marijuana on the Southwest Border, averaging approximately 15.7 pounds of marijuana seized at the Southwest Border per flight hour. Pertaining to Transit Zone operations, the UAS Guardian has deployed to Central America and Hispaniola four times since FY 2012, interdicting a total of 7,439.2 pounds of cocaine (with a value of \$562 million), at an average of over 14 pounds interdicted per flight hour. These deployments also interdicted 2,000 pounds of marijuana. In the most recent deployment, OAM operated from a public international airport, flying published terminal arrival and departure procedures mixed with commercial airline traffic, an accomplishment previously considered not possible.

The OIG draft Report does not cite these achievements. Instead, the Report cites a limited sample of expected results from historical documents, some going back to 2007. The expectations the OIG focused on were based on the program receiving resources that were not obtained, performance measures that were never employed by CBP, or technological capabilities that have been surpassed. This context is critical for presenting an accurate assessment of the CBP UAS program's current performance and achievements.

The flight hour metric cited in the OIG Report was included in the *Concept of Operations for CBP's Predator B Unmanned Aircraft System: Fiscal Year 2010 Report to Congress*, dated June 29, 2010. This operations "tempo" objective was based on receiving commensurate investments in UAS resources, such as personnel, aircraft, spares, and other necessary infrastructure. Because of funding decreases across the Department, CBP has been unable to meet the objectives. CBP is achieving the maximum number of flight hours possible given its current funding levels.

In addition to concerns about incomplete use of information provided, CBP is concerned about OIG's selection of measures and metrics. Specifically, the apprehension metric reported on by OIG is not an appropriate measure of an aircraft's performance. The role of the UAS, specifically in the case of the Vehicle and Dismount Exploitation Radar (VADER), is to report detections. It is nearly 100 percent effective in the execution of that capability, and this information is then used to aid in CBP's ground response. Aircraft detections are provided to law enforcement on the ground who apprehend suspects. OAM has no way to attach a disposition to a detection that is not immediately resolved with any degree of certainty. Aircraft are only credited with contributing to the apprehension if the aircraft stays on scene until the apprehension is verified, which is not always an effective use of the asset. For these reasons, a better measure of UAS performance is detections. CBP provided OIG with FY 2013 data on detections. While the number of apprehensions attributed to UAS was only around 2,172, during the same timeframe, the VADER pod detected, identified, and classified 18,239 suspected undocumented aliens and smugglers. The detections illustrate that VADER is providing situational awareness, a critical capability for border security.

Further, the draft OIG Report cites speculation that the Border Patrol could have detected the suspects using other means. CBP deploys multiple layers of personnel, technology, and infrastructure, and all CBP assets are instrumental in achieving the Agency's mission. In the view of the local Border Patrol field leadership, the asset is a critical contributor to border security.

In reporting on the objective to reduce the cost of border surveillance, the draft OIG Report refers to a statement in the March 20, 2007, Mission Need Statement (MNS). At the time the MNS was written, CBP was considering a range of performance measures, potentially including the cost of border surveillance. CBP did not adopt this as a performance measure, so the necessary data is not available. Including this as a measure that has not been met would not be accurate.

The draft OIG Report also identifies responding to motion sensor alerts as an unmet expectation. Initially, this use of the unmanned aircraft was appropriate for its technological capabilities. CBP did utilize the UAS for this function prior to the implementation of VADER, and continues to perform this function on a limited basis; however, technological advances to the system have made this a less efficient use of the current capabilities of the UAS, and so its significance as a performance measure has been negated.

It is also important to clarify where CBP operates the UAS along the Southwest Border. The DHS FY 2012-2014 Annual Performance Report includes a text box on Southwest Border Security on page 21, which states "expanded unmanned aircraft system coverage to the entire Southwest Border." This milestone refers to the expansion of UAS access to the National Airspace System across the entire Southwest. While CBP UAS flights are focused on the highest priority sections of the border, OAM has authorization to fly, and has flown, the UAS along every stretch of the Southwest Border, from California to the Texas gulf coast. Therefore, statements in the draft OIG Report that, "unmanned aircraft are not operating along the entire southwest border," are inaccurate.

## VADER

The originally anticipated VADER operations, which were documented in the *Concept of Operations for Vehicle and Dismount Exploitation Radar (VADER) Deployment*, issued in 2012, were developed prior to the operations of the asset. As is appropriate, the tactics and techniques for utilizing the system were refined as CBP gained experience using the system, culminating in a new concept of operations written by CBP's Joint Field Command (JFC). The new concept of operations recognized that VADER provided not only strategic information, but tactical information as well. Based on this improved understanding, as well as the fact that the JFC area of responsibility was the highest priority location for DHS and CBP, the JFC Commander utilized the assets under his purview, including VADER, to accomplish CBP's mission. As such, and contrary to the OIG Report, the JFC and OAM essentially outperformed the requirements in the initial CONOPS for the VADER.

The statement that the JFC decided on its own accord to set geographic limitations on the use of VADER is inaccurate. There were earlier geographic limitations placed on the locations of operations of VADER, due to factors external to the JFC, such as airspace and other restrictions. Additionally, these earlier geographic limitations have since been lifted.

Contrary to the assertions in the draft Report that CBP has been prevented from analyzing VADER's sensor data, the JFC has shared all VADER and UAS related data with CBP's Office of Intelligence and Investigative Liaison (OIIL). The OIIL Processing Exploitation Dissemination (PED) cell at the Air and Marine Operations Center (AMOC) in Riverside, California, receives all video feeds, intelligence collections, and VADER feeds directly, as well as copies of all follow-up JFC field reports associated with VADER detections. OIIL reports that from August 29, 2012 through September 1, 2014, the PED cell produced 292 daily VADER products. In addition to the OIIL PED cell, the JFC established a Joint Intelligence Operations Center (JIOC). The significance of both the PED cell and JIOC is that VADER data is streamed simultaneously to both; to the PED cell for strategic analysis, and to the JIOC for actionable intelligence.

## **UAS Program Cost**

CBP disagrees with the cost and CPFH calculations in the OIG Report. Aircraft CPFH figures are not meant to be an indicator of a program's actual cost, but a management tool to assess program performance. OAM complies with OMB A-126, and derives a reasonable CPFH using both fixed and variable costs. As reported by the Congressional Budget Office (CBO), the Defense services use similar cost methodologies to derive their respective CPFH figures, but tailor their CPFH programs to identify internal trends to support their budgetary and management processes. The OIG draft Report erroneously states that OAM is not properly reporting UAS program costs in the GSA Federal Aviation Interactive Reporting System (FAIRS), as OAM recorded FY 2013 costs in FAIRS in accordance with GSA requirements.

### UAS Program Cost and OIG Estimates

The Report cost figures do not accurately reflect OAM UAS Program cost, include figures not properly attributed to the UAS Program, and inflate the actual program cost. OAM does not agree with the figures in Table 2 identified as "OAM Calculation," and these numbers should not form the basis for CPFH calculations. OAM specifically disagrees with the Maintenance and Support cost figure; Satellite cost figure; Fuel cost figure; Depreciation cost figure, as well as its inclusion as a program cost; inclusion of VADER systems; inclusion of OAM UAS Headquarters Program Office support; Engineering Services cost figure; and inclusion of Base Overhead and Government Personnel costs. These figures are inaccurate, and in some cases, should not be included in the Program Cost, or associated with a CPFH model.

### Cost Per Flight Hour Discussion and Formulation

CBP disagrees with the methodology used by OIG to derive UAS CPFH. In accordance with OMB A-126, OAM developed a CPFH model to "improve the management and use of" OAM aviation resources. OMB A-126 Attachment A, Accounting for Aircraft, states:

The actual cost of using a government aircraft is either: (a) the amount that the agency will be charged by the organization that provides the aircraft, (b), if the agency operates its own aircraft, the variable cost of using the aircraft; or (c), if the agency is not charged for the use of an aircraft owned by another agency, the variable cost of using the aircraft as reported to it by the owning agency.

Agencies should develop a variable cost rate for each aircraft or aircraft type (i.e., make and model) in their inventories before the beginning of each fiscal year.

Based on the guidance above, and because OAM operates its own aircraft, OAM uses variable costs to calculate its CPFH. Variable and fixed costs are defined in Attachment B, Standard Aircraft Program Cost Element Definitions, which divides crew costs into variable costs and fixed costs. As defined, variable costs for crew are limited to travel, such as per diem; overtime charges; and wages of crew hired on an hourly or part-time basis. The crew costs that do not vary according to aircraft usage, including OAM's salaried personnel, are fixed costs. Therefore, OAM includes its variable costs as appropriate, but does not include the salaries, benefits, or training costs for its personnel. OIG's inclusion of fixed costs appear to conflict with the OMB A-126 guidance.

OAM recognizes there are differing approaches to calculating CPFH, although the OAM approach does not significantly differ from alternative cost model approaches. Under the Conklin and de Decker commercial method, the four main data sets for each aircraft type are: (1) the cost of depot level repair parts, (2) the cost of maintenance consumables, (3) the cost of fuel, and (4) the cost of maintenance contracts, expressed in terms of a CPFH, then added all together for a total CPFH. The CBO even notes differences in the Defense services CPFH models in its publication "Models Used by the Military Services to Develop Budgets for Activities Associated with Operational Readiness" (February 2012), highlighting "[b]udget models for flying hours calculate the quantities of fuel, spare parts, and other resources required per hour of flight, and

then apply historical cost factors to each of those resources to estimate the total cost per flying hour."

The specific components of the OAM approach to calculating CPFH include both direct costs (fuel, avionics, engine, airframe, equipment, support, and services) and indirect costs (aircraft specific travel, training, tools, equipment, parts, and communications support). By determining CPFH in this manner, OAM is "identifying opportunities to reduce aircraft operational cost" as highlighted in Attachment A of OMB A-126.

#### OMB A-126 Does Not Cover Unmanned Aircraft in its Present Form

The language in OMB A-126 and its governing authorities, specifically 31 U.S.C. 1344, titled, Passenger Carrier Use, addresses transporting government personnel on government aircraft versus commercial carriers and does not specifically apply to the operation of unmanned aircraft. However, OAM has been prudent in its approach to applying the general intent of the circular. OIG notes "OMB's Circular No. A-126 Revised, *Improving the Management and Use of Government Aircraft*, requires Federal agencies with aircraft programs to accumulate all costs associated with the programs, including the cost of crew, maintenance, fuel and other fluids, leasing, landing fees, operations and administrative overhead, accident repairs, and acquisition costs. Agencies need to understand the full cost of a program to accurately determine cost effectiveness and to conduct cost comparisons when choosing aircraft." This is an important consideration for cost planning, which OAM applies to all of its aviation assets. As it relates to the operation of unmanned aircraft, there is still a great deal of ambiguity in how the circular applies; however, OAM is operating in a manner consistent with the spirit of the circular. The next revision of the circular, currently in progress, could provide more guidance specific to unmanned aircraft, which CBP anticipates might help resolve the current ambiguity.

#### **Future UAS Program Costs**

The draft Report inaccurately conveys OAM's UAS procurement plans. The draft Report states, "CBP's long-term plans include adding 14 more unmanned aircraft to its fleet [of 10 aircraft]... In October 2012, OAM proposed adding about \$443 million to the existing support and maintenance contract for its unmanned aircraft to acquire, support, and maintain the additional 14 aircraft."

OIG referenced a July 17, 2008, Acquisition Decision Memorandum from the DHS Under Secretary for Management and a 2012 Acquisition Plan Annex for the CBP Strategic Air and Marine Plan to support its conclusion that OAM plans to procure an additional 14 UAS. While these documents outline potential UAS procurements, they authorize – not mandate – the purchase. These documents clearly state two key caveats: 1) procurement is based upon OAM's mission needs and determination, and 2) procurement is dependent on available funds. Contrary to statements in the draft Report, OAM has always been in agreement that the 2008 Acquisition Decision Memorandum did not mandate expansion, but authorized OAM to expand the program, contingent upon funding.



Currently, OAM has a fleet of nine UAS, and intends to purchase one additional aircraft to replace the one that was ditched off the coast of California in January 2014. There is no intent at this time to acquire additional UAS beyond the one replacement aircraft, nor does OAM have a contract or funding in place to expand the UAS program. This is directly supported in CBP's response to OIG's 2012 Report (OIG-12-85), wherein CBP responded it did not plan to "expand the UAS fleet beyond the 10 systems already in operation or on order unless directed to do so by higher authority." OAM's existing UAS program funding allocation is being used to expand the program's infrastructure and achieve a greater level of utilization of its existing fleet. Until OAM is able to elevate the staffing, operations, and maintenance of its existing UAS fleet, it does not support the expansion of the program.

CBP has previously discussed this issue with OIG, providing information and background on these and subsequent developments. These actions illustrate responsible program management to develop contingency plans that would enable the program to execute congressional and administration direction.

The draft report contained four recommendations. CBP's response to the recommendations is below:

**Recommendation 1:** Conduct an independent study of the UAS program, before acquiring more unmanned aircraft, to determine whether:

- Additional unmanned aircraft are needed and justified; and
- Future funding should be used to invest in the current program or invested in other alternatives, such as manned aircraft and ground assets, to enhance surveillance needs.

**Response:** Concur in principle. However, CBP would like to clarify that the recommendation is based on a misunderstanding of OAM's procurement plans. At this time, CBP has no plans to acquire additional UAS beyond the one replacement aircraft, nor does OAM have a contract or funding in place to expand the UAS program. OAM's existing UAS program funding is being used to expand the program's infrastructure and achieve a greater level of utilization of its existing fleet. Until OAM is able to elevate the staffing, operations, and maintenance of its existing UAS fleet, it does not support the expansion of its number of aircraft. CBP respectfully requests closure of this recommendation.

**Recommendation 2:** Require the JFC to lift the limitations on VADER and allow the analysis expected in the original plan for the sensor's operation.

**Response:** Concur in principle. However, CBP would like to clarify that the recommendation is based on a misunderstanding that the JFC has limited VADER operations and the analysis of the sensor's products. Previous limitations, which were based on external factors over which the JFC had no control, have already been resolved. CBP has operated VADER outside the JFC area of operations, and will continue to deploy the asset to the highest priority location for DHS and CBP. CBP respectfully requests closure of this recommendation.

**Recommendation 3:** Require OAM to revise its UAS Concept of Operations to include attainable goals for the program, along with verifiable performance measures.

**Response:** Concur. CBP's OAM has already begun the process to revise its UAS Concept of Operations, which will include performance measures. Estimated Completion Date: March 31, 2015.

**Recommendation 4:** Require OAM to develop policies and procedures to ensure that it accumulates and reports all costs associated with the UAS program and other OAM flight programs, as required by OMB.

**Response:** Concur in principle. CBP agrees that the establishment and following of policies and procedures ensuring transparency of all costs associated with all flight programs is required and is a necessary part of such flights programs. CBP currently reports all required costs directly associated with the operations of unmanned aircraft; however, there is no one formulaic tool that can encompass all programs' parts to derive program cost totals. While CBP concurs in principle with the OIG recommendation, there are numerous methodologies and approaches that satisfy the requirement to report all costs associated with a program. CBP will continue to exercise its current methodology in computing program costs, including its previously developed CPFH model. CBP's use of the CPFH provides management with one tool to assess program performance, and while it alone does not capture the total program costs as it does not include all elements of the program, it does enable CBO to identify internal trends. While CBP's approach to accumulating and reporting all costs associated with the UAS program and other OAM flight programs differs from the approaches utilized by OIG, we believe the intent of the recommendation is met in that OAM's approach meets current OMB standards. CBP respectfully requests closure of this recommendation.

Again, thank you for the opportunity to review and comment on this draft Report. Technical comments were provided under separate cover. If you have any questions or would like additional information, please contact me at (202) 344-2300, or a member of your staff may contact Ms. Jennifer Topps, Component Audit Liaison, Management Inspection Division, at (202) 325-7713.