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Report to Congressional Committees

February 2019

UNMANNED AERIAL SYSTEMS

Air Force Pilot Promotion Rates Have Increased but Oversight Process of Some Positions Could Be Enhanced

GAO-19-155

GAO Highlights

Highlights of GAO-19-155, a report to congressional committees

February 2019

UNMANNED AERIAL SYSTEMS

Air Force Pilot Promotions Rates Have Increased but Oversight Process of Some Positions Could Be Enhanced

Why GAO Did This Study

An increasing number of Air Force missions use unmanned aerial systems, or RPAs, to provide their specialized capabilities in support of combat operations. The demand for crew members for these systems has grown rapidly. For example, RPA pilot requirements increased by 76 percent since fiscal year 2013 while those for fighter pilots stayed about the same. These requirements include pilots who serve in non-operational staff positions, such as trainers.

Senate Report 115-125 included a provision that GAO review career advancement for Air Force RPA pilots compared to other pilots. This report, among other things, describes (1) the rates that RPA and other pilots were promoted; (2) the rates that non-operational staff positions requiring RPA pilot expertise were assigned to various organizations, and (3) the extent to which the Air Force has reviewed its oversight process to effectively manage non-operational staff positions requiring aviator expertise.

Among other things, GAO analyzed Air Force pilot promotion data from 2006-2017. GAO also analyzed non-operational staff position data from fiscal years 2013-2018 and interviewed officials regarding the management and oversight of these positions.

What GAO Recommends

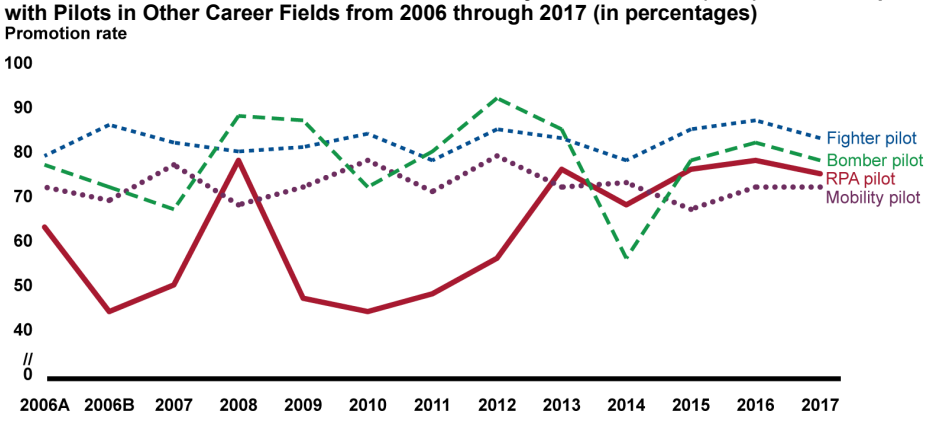
GAO recommends that the Air Force review its oversight process for managing the non-operational staff positions, including those for RPA pilots, to identify opportunities to increase efficiencies. DOD concurred with this recommendation.

View GAO-19-155. For more information, contact Brenda S. Farrell at 202-512-3604 or farrellb@gao.gov.

What GAO Found

The promotion rates for Air Force Remotely Piloted Aircraft (RPA) pilots have been generally similar to those of other pilots since 2013 and have increased over time. See figure below for promotion rates from major to lieutenant colonel. Air Force officials stated that RPA pilot promotion rates increased because the creation of a dedicated career field resulted in more competitive candidates.

Promotion Rates to Lieutenant Colonel for Remotely Piloted Aircraft (RPA) Pilots Compared with Pilots in Other Career Fields from 2006 through 2017 (in percentages)



Source: GAO analysis of Air Force data. | GAO-19-155

Note: The Air Force held two promotion boards in 2006 noted as "A" and "B," for major to lieutenant colonel.

Since 2013, over 75 percent of non-operational staff positions requiring RPA pilot expertise were assigned to various organizations within the Air Force, according to GAO's analysis. These positions carry out support and other noncombat-related activities as well as training functions and are essential to the development of officers. However, the overall number of these positions that require a RPA pilot is about one-tenth of the combined number of those requiring other pilots. For example, in fiscal year 2018, 83 non-operational staff positions required RPA pilots compared to 330 requiring fighter pilots. Air Force officials stated that the small number of RPA positions is because the career field is new.

The Air Force has not reviewed its oversight process to ensure that it is efficiently managing its non-operational staff positions that require aviator expertise. Air Force officials explained that over the last 10 years, the Air Force reduced the number of squadrons but had not reviewed the number of non-operational staff positions. Similarly, the Air Force has had no widely accessible oversight process to monitor whether it had established an accurate number of non-operational staff positions required to support the new RPA career field. In August 2018, the Air Force identified 513 non-operational staff positions (out of 2,783) as needing further review because they lacked adequate justification of the need for aviator expertise. Officials described the process for managing these positions as time and labor intensive, which can cause delays in obtaining reliable information needed to inform decision-making. By reviewing this process, the Air Force may be able to identify opportunities to create efficiencies and more effectively manage its non-operational staff positions requiring aviator expertise.

Contents

Figures

Abbreviations

DOD	Department of Defense
RPA	Remotely Piloted Aircraft
UAS	Unmanned Aircraft System

U.S. GOVERNMENT ACCOUNTABILITY OFFICE
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Washington, DC 20548

February 7, 2019

The Honorable James M. Inhofe
Chairman
The Honorable Jack Reed
Ranking Member
Committee on Armed Services
United States Senate

The Honorable Adam Smith
Chairman
The Honorable Mac Thornberry
Ranking Member
Committee on Armed Services
House of Representatives

An increasing number of Air Force missions call for the use of Remotely Piloted Aircraft (RPAs) to provide their specialized capabilities in support of combat operations.[1] The Air Force uses RPAs to gather intelligence, conduct surveillance and reconnaissance, and launch attacks against a variety of targets. RPA aircrews consist of two people—a pilot and a sensor operator. The pilot—in most cases a rated officer, i.e., an officer possessing aviation expertise—flies the aircraft.[2] The Air Force relied solely on manned aircraft pilots assigned to fly RPAs until 2010 when it established an RPA pilot career field for officers trained to fly only RPAs. The sensor operator—an enlisted servicemember—controls the aircraft's sensors that record video and other intelligence information. The demand for these skilled pilots and sensor operators has grown rapidly. For example, from fiscal years 2013 to 2018, the Air Force experienced about a 76 percent increase in its requirements of RPA pilots (1,366 to 2,404)

[1]The Department of Defense (DOD) uses the term "unmanned aircraft system" (UAS) while the Air Force uses the term Remotely Piloted Aircraft (RPA) to describe the system whose components include the necessary equipment, network, and personnel to control aircraft that do not carry a human operator. Because this report focuses on the Air Force, we use the term RPA.

[2]Aircrew members serving in or qualified to serve in the following positions with aviation expertise are known as "rated" crew members: pilots, navigators, combat system officers, flight test positions, astronauts, flight surgeons, air battle managers, and remotely piloted aircraft pilots. While most are officers, in accordance with the *National Defense Authorization Act for Fiscal Year 2017*, the Air Force implemented a plan to also allow enlisted servicemembers to operate the Global Hawk RPA. Pub. L. No. 114-328 (2016).

while its requirements for fighter pilots remained about the same (3,976 to 3,951).

Our prior work has identified challenges that the Air Force has experienced with the growth of the RPA pilot career field. For example, in April 2014, we found shortages of RPA pilots and that the Air Force faced challenges recruiting, developing, and retaining pilots and building their morale. Additionally, we found that RPA pilot promotion rates were lower than those for other career fields.[3] The Air Force generally concurred with our seven recommendations in that report to address these issues and subsequently has fully implemented all but one recommendation to analyze the career field effect of being an RPA pilot to determine whether and how being an RPA pilot is related to promotions. Further, in January 2017, we found, among other things, that the Air Force could improve its strategic human capital planning, and we made three recommendations to the Air Force and two to the Office of the Under Secretary of Defense for Personnel and Readiness to which they generally concurred.[4] As of July 2018, the Air Force had taken some action, but has not fully implemented these recommendations. Appendix I contains more details related to the recommendations that we have made regarding unmanned aerial systems pilot issues along with DOD's and the Air Force's actions taken to address them.

In a report accompanying a bill for the National Defense Authorization Act for Fiscal Year 2018, the Senate Armed Services Committee included a provision for us to provide, among other things, the promotion rates for Air Force RPA pilots since our 2014 report as well as for RPA sensor operators.[5] This report describes (1) the rates at which RPA pilots were promoted and nominated to attend developmental education opportunities as compared to the rates for pilots in other career fields; (2) the rates at which enlisted RPA sensor operators were promoted as compared to the rates for other enlisted servicemembers; (3) the rates at which non-operational staff positions requiring RPA pilot expertise were assigned among Air Force organizations; and (4) reviews the extent to which the

[3]GAO, *Air Force: Actions Needed to Strengthen Management of Unmanned Aerial System Pilots*, GAO-14-316 (Washington, D.C.: Apr. 10, 2014).

[4]GAO, *Unmanned Aerial Systems, Air Force and Army Should Improve Strategic Human Capital Planning for Pilot Workforces,* GAO-17-53 (Washington, D.C: Jan. 31, 2017).

[5]S. Rep. 115-125 (2017).

Air Force has evaluated its oversight process used to manage non-operational staff positions requiring aviator expertise.

To determine the rates at which RPA pilots have been promoted, we obtained from the Air Force Personnel Center data on the number of promoted officers and the number of officers eligible from 2006 through 2017 for pilots from four career fields—bombers, fighters, mobility, and RPA—who qualified as "In-the-Promotion-Zone" to the ranks of major (grade O-4), lieutenant colonel (grade O-5), and colonel (grade O-6).[6] The promotion rates from 2006 through 2012 were initially reported in our 2014 report[7] on Air Force RPA workforce issues and included in this report for comparison purposes with the promotion rates from 2013 through 2017 that we calculated. From these data from 2013 through 2017, we calculated promotion rates to each rank for pilots from four career fields—bombers, fighters, mobility, and RPAs—by dividing the number of promoted officers by the number of eligible officers. We then compared the annual RPA pilot promotion rates we calculated to (1) those that we calculated for the other types of pilots to determine the extent to which the rates were similar and (2) the promotion rates that we reported in our 2014 report covering 2006 through 2012 to determine the extent to which the rates from 2013 through 2017 had changed from these previously reported promotion rates. Further, we reviewed Air Force documents governing the officer promotion processes and interviewed Headquarters Air Force Operations and Air Force Personnel Center officials to obtain their perspectives on trends in RPA pilot promotion rates.

To determine the rates at which RPA pilots have been nominated to attend developmental education[8]—e.g. professional military education—

[6]According to Air Force Instruction 36-2501, *Officer Promotions and Selection Continuation*, (July 16, 2004) (incorporating Change June 24, 2016), officers who are eligible for promotion fall into one of three promotion categories: Below-, In-, or Above-the-Zone. Officers who fall "In-the-Promotion-Zone" have the greatest opportunity for promotion. Further, since promotions to First Lieutenant (grade O-2) and Captain (grade O-3) are basically time-phased, we excluded them from our analyses.

[7]GAO-14-316.

[8]Developmental Education includes: Professional Military Education, Joint PME, International PME, resident and distance learning programs, as well as Air Force-sponsored Advanced Academic Degree programs, Air Force Institute of Technology, Naval Post-graduate School, National Defense Intelligence College, Advanced Study of Air Mobility, the Air Force Intern Program and the Air Force Fellows Program for AF military and civilian employees. *See* Air Force Instruction 36-2301, *Personnel, Developmental Education*, (July 16, 2010) (incorporating Change 2 July 9, 2013).

opportunities as compared to the rates for pilots in other career fields, we analyzed intermediate and senior level developmental education[9] nomination data for all eligible officers for academic years 2014 through 2018. In order to analyze data consistent with the promotion analyses we performed, we requested developmental education nomination data from the same time period. However, officials told us that no academic year 2013 data was available but that academic year 2018 data were available. Therefore, we obtained the most recent 5-year developmental education nomination data available, which covered academic years 2014 through 2018. From these data, we calculated nomination rates by dividing the number of nominated officers by the number of eligible pilots from four career fields—bombers, fighters, mobility, and RPAs—that competed for nominations. We then compared the annual RPA pilot nomination rates we calculated to those of the other types of pilots to determine the extent to which the rates were similar. We also reviewed Air Force documents governing the developmental education nomination process and interviewed Headquarters Air Force Personnel and Air Force Personnel Center officials about such processes.

To determine the rates at which enlisted sensor operators have been promoted as compared to the rates for other enlisted servicemembers, we obtained from the Air Force Personnel Center data on the number promoted and the number eligible for promotion to the ranks of Staff Sergeant (grade E-5) through Chief Master Sergeant (grade E-9) for RPA sensor operators and the entire population of enlisted personnel. In order to analyze data consistent with promotion analyses we performed, we obtained this enlisted promotion data from the same period of 2013 through 2017. From these data, we calculated promotion rates for each year by dividing the number of promoted enlisted servicemembers by the number of eligible enlisted servicemembers. For each year, we compared the annual enlisted RPA sensor operator promotion rates to those of the entire population of enlisted servicemembers that were eligible for promotions to determine the extent to which the rates were similar. We also reviewed Air Force documents governing the enlisted promotion processes and interviewed Headquarters Air Force Personnel and Air Force Personnel Center officials to obtain their perspectives on trends in enlisted sensor operator promotion rates.

[9]The background section of this report further explains these two types of developmental education programs.

To determine the rates at which non-operational staff positions that require RPA pilot expertise are assigned among Air Force organizations, we obtained the number of non-operational staff positions required and assigned within Air Force organizations for rated officers (i.e., have aviator expertise) from four selected careers fields—bombers, fighters, mobility and RPA pilots.[10] These data were obtained from Headquarters Air Force Operations, Headquarters Air Force Personnel, and Air Force Personnel Center. In order to analyze data consistent with the promotion analyses we performed, we obtained this non-operational staff position assignment data from the same fiscal years 2013 through 2017. Because fiscal year 2018 data became available during the time of our review, we also included it in our analysis. Therefore, we obtained the most recent 6-year non-operational staff position assignment data available, which covered fiscal years 2013 through 2018. From these data, we calculated annual non-operational staff position assignment rates by dividing the number of positions assigned by the number of positions required by Air Force organizations for the four types of pilots.[11] We then compared the annual RPA non-operational staff position assignment rates to those calculated for the other types of pilots to determine the extent to which the rates were similar.

Additionally, to determine the extent to which the Air Force has reviewed its oversight process to effectively manage its non-operational staff positions that require aviator expertise, we reviewed Air Force instructions related to the requirements and responsibilities for managing the process for reviewing and justifying the need for aviator expertise in non-operational staff positions.[12] We evaluated Air Force practices for obtaining and using information for various Air Force organizations regarding their justification for aviator expertise in their non-operational staff positions against requirements from both the applicable Air Force instructions and the *Standards for Internal Control in the Federal*

[10]In their report accompanying a bill for the National Defense Authorization Act for Fiscal Year 2018, the Senate also asked us to review availability of staff positions for sensor operators. According to Air Force officials, very few staff positions exist for enlisted personnel. Therefore, we focused our review on the availability of staff positions for rated officers.

[11]The Air Force produces its Rated Management Directive (formerly known as the Rated Staff Allocation Plan) to implement senior leadership guidance and priorities regarding the use of rated resources (i.e., officers with aviator expertise).

[12]Air Force Instruction 11-412, *Aircrew Management* (Dec. 10, 2009); Air Force Instruction 38-201 *Management of Manpower Requirements and Authorizations* (Jan. 30, 2014).

Government.[13] This included the importance of designing control activities to achieve objectives and respond to risks and using quality information by identifying information requirements, obtaining relevant data from reliable sources in a timely manner, and processing the obtained data into quality information. Further, we also interviewed operations officials from both Headquarters Air Force and the Air Force Air Combat Command to obtain their perspectives of the process used to review and justify the need for aviator expertise in staff positions. Further, we also interviewed Headquarters Air Force officials regarding the status of their efforts to respond to a House of Representatives requirement for the Secretary of Air Force to report the results of a review of every staff position requiring aviator expertise within the Air Force.[14]

To assess the reliability of the data used for each of the objectives, we reviewed technical documentation for each data source to understand the methods used to collect, store, and maintain these data; assessed the data for errors, omissions, and inconsistencies; and interviewed officials from Headquarters Air Force operations directorate, Headquarters Air Force personnel directorate, and the Air Force Personnel Center who were familiar with the systems from which the data were extracted. We also considered the use of the data in prior related GAO reports. We determined that the data were sufficiently reliable for our purposes of reporting historical promotion, developmental education selection, and rated staff position allotment trends, respectively.

We conducted this performance audit from January 2018 to February 2019 in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

[13]GAO, *Standards for Internal Control in the Federal Government*, GAO-14-704G (Washington, D.C.: September 2014).

[14]H. R. Rep. No. 115-676 (2018), accompanying a bill for the National Defense Authorization Act for Fiscal Year 2019.

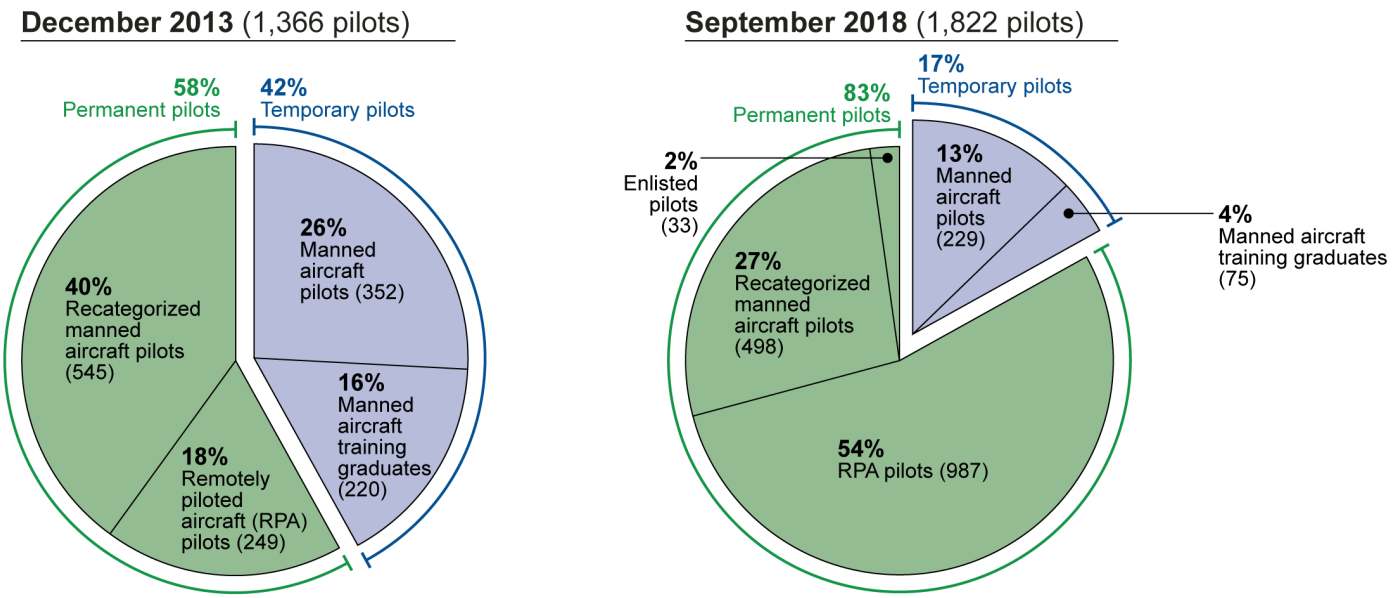
Background

Air Force RPA Aircrews

RPA aircrews consist of a pilot and a sensor operator. The Air Force in most cases assigns officers to fly its RPAs.[15] The Air Force relied solely on manned aircraft pilots to fly remotely piloted aircraft until 2010 when it established a RPA pilot career field (designated as Air Force Specialty Code 18X) for officers trained to fly only RPAs. As of December 2013, approximately 42 percent of the RPA pilots were temporarily assigned, manned aircraft pilots and manned aircraft pilot training graduates. Both of those groups of RPA pilots are temporarily assigned to fly RPAs with the assumption that after their tour they will return to flying their manned aircraft. By comparison, as of September 2018, manned aircraft pilots and manned aircraft pilot training graduates comprised only 17 percent of the RPA pilots. Further, the number of permanent RPA pilots has increased from 58 percent of all RPA pilots in December 2013, to 83 percent as of September 2018, as shown in figure 1.

[15]In accordance with the *National Defense Authorization Act for Fiscal Year 2017*, the Air Force implemented a plan to allow some enlisted servicemembers to operate the Global Hawk RPA. Pub. L. No. 114-328 (2016).

Figure 1: Change in Types of Permanent and Temporary Air Force Pilots Serving as Pilots of Remotely Piloted Aircraft (RPA), December 2013 and September 2018



Source: GAO analysis of Air Force data. | GAO-19-155

Note: The number below the percentage is the total number of RPA pilots that fall within the category. Permanent RPA pilots consist of (1) RPA pilots who are officers trained to fly only RPAs, (2) recategorized manned aircraft pilots who are pilots originally trained to fly manned aircraft who have converted to be RPA pilots, and (3) enlisted pilots where applicable. Temporary RPA pilots are manned aircraft pilots and training graduates who are temporarily assigned to fly RPAs with the assumption that after their tour they will return to their manned aircraft.

Additionally, Air Force enlisted personnel operate the RPAs' sensors, which provide intelligence, surveillance, and reconnaissance capabilities. As a crewmember, the RPA sensor operators provide assistance to the RPA pilot with all aspects of aircraft use, such as tracking and monitoring airborne, maritime and ground objects and continuously monitoring the aircraft and weapons systems status.

Officer Promotion Process

The *Defense Officer Personnel Management Act*, as amended, created a standardized system for managing the promotions for the officer corps of each of the military services.[16] Pursuant to the established promotion system, the secretaries of the military departments must establish the

[16]Pub. L. No. 96-513 (1980), *codified at* 10 U.S.C. § 615.

maximum number of officers in each competitive category that may be recommended for promotion by competitive promotion boards. Within the Air Force, there are groups of officers with similar education, training, or experience, and these officers compete among themselves for promotion opportunities. There are several competitive categories including one that contains the bulk of Air Force officers called the Line of the Air Force, which includes RPA pilots, as well as pilots of manned aircraft and other operations-oriented careers.[17]

To determine the best-qualified officers for promotion to positions of increased responsibility and authority, the Air Force appoints senior officers to serve as members of a promotion selection board for each competitive category of officer in the Air Force. Promotion selection boards consist of at least five active-duty officers who are senior in grade to the eligible officers and who reflect the eligible population with respect to minorities and women, as well as career field, aviation skills, and command in an attempt to provide a balanced perspective. Promotion boards convene at the Air Force Personnel Center headquarters to perform a subjective assessment of each officer's relative potential to serve in the next higher grade by reviewing the officer's entire selection folder. This "whole-person concept" involves the assessment of such factors as job performance, professional qualities, leadership, job responsibility, depth and breadth of experience, specific achievements, and academic and professional military education.

Developmental Education Program Selection Process

The Air Force developmental education programs expand expertise and knowledge as well as a path that helps to ensure that personnel receive the appropriate level of education throughout their careers.[18] Officers have three opportunities to compete for intermediate developmental education programs, which focus on warfighting within the context of operations and leader development, such as at the Air Command and

[17]Additional competitive categories in the Air Force include the judge advocate and chaplain competitive categories as well as several competitive categories for a variety of medical career fields.

[18]Developmental Education includes: Professional Military Education, Joint PME, International PME, resident and distance learning programs, as well as Air Force-sponsored Advanced Academic Degree programs, Air Force Institute of Technology, Naval Post-graduate School, National Defense Intelligence College, Advanced Study of Air Mobility, the Air Force Intern Program and the Air Force Fellows Program for Air Force military and civilian employees. Air Force Instruction 36-2301, *Developmental Education* (July 16, 2010) (incorporating Change 2 July 9, 2013).

Staff College. Officers have four opportunities to compete for senior developmental education programs, such as at the Air War College, which are designed to educate senior officers to lead at the strategic level in support of national security, and in joint interagency, intergovernmental and multinational environments.

A subset of developmental education is Professional Military Education, which includes resident and non-resident attendance options open to officers in both the intermediate and senior developmental education programs. Nonresident programs exist to provide individuals who have not completed resident programs an opportunity to complete them via correspondence, seminar, or other approved methods. Prior to 2017, officers who were identified by their promotion board as a developmental education candidate or "selectee" were assured of the opportunity to attend some form of developmental education in-resident program. However, in March 2017, the Air Force announced changes to its nomination process for officer developmental education by separating in-residence school selection status from promotion decisions. Since that time, commanders nominate candidates for in-residence, developmental education programs based on individual performance.

Various Career Assignments for Officers with Aviation Expertise

Officers with aviation expertise, including RPA pilots, at various points in their careers, may rotate through both flying and nonflying positions to broaden their career experiences. Operational positions, whether flying or nonflying, include those positions that exist primarily for conducting a military action or carrying out a strategic, tactical, service, training or administrative military mission. Operational positions include a range of flying positions, such as for RPA pilots, operating aircraft to gather intelligence or conduct surveillance, reconnaissance or air strikes against a variety of targets. Operational positions that are non-flying positions could include assignments as a close-air-support duty officer in an Air Operations Center.

Non-operational staff positions are generally non-flying positions and include assignments to headquarters or combatant command positions. Certain non-operational staff positions can be filled only by qualified pilots. Other non-operational positions are more general in nature and are divided among officer communities to help carry out support activities, training functions, and other noncombat related activities in a military service. These positions could include positions such as a recruiter, working as an accident investigator, advisor to foreign militaries, or a policy position at an Air Force major command. The Air Force views

nonoperational staff positions as a means to develop leaders with the breadth and depth of experience required at the most senior levels inside and outside the Air Force.

Roles and Responsibilities Related to Aircrew Management

Various offices within the Air Force have roles and responsibilities for the management of aircrew positions and personnel.

- **The Deputy Chief of Staff for Operations** is to establish and oversee policy to organize, train and equip forces for the Department of the Air Force. This specifically includes the responsibility for all matters pertaining to aircrew management.
    - **The Directorate of Operations** is responsible for developing and overseeing the implementation of policy and guidance governing aircrew training, readiness, and aircrew requirements. The directorate is the approval authority for aircrew distribution plans, rated allocation oversight and any other areas that have significant aircrew management implications.
        - **The Operational Training Division** produces the official Air Force aircrew personnel requirements projections, and in conjunction with the Military Force Policy Division, develops and publishes the Rated Management Directive, formerly known as the Rated Staff Allocation Plan, as approved by the Chief of Staff of the Air Force as designed to meet near-term operational as well as long-term leadership development requirements.[19]
- **The Office of the Deputy Chief of Staff for Manpower, Personnel, and Services** has responsibilities that include developing personnel policies, guidance, programs, and other initiatives to meet the Air Force's strategic objectives to include accessions, assignments, retention, and career development.
    - **The Directorate of Force Management Policy, the Force Management Division** analyzes officer, enlisted and civilian personnel issues. The division also maintains a variety of computer models and databases to analyze promotion, retention, accession, compensation and separation policy alternatives.

[19]According to an Air Force official, a revised instruction not publically available as of January 25, 2019, changes the name of the Directorate of Operations to the Directorate of Training and Readiness and the Operational Training Division will be the Total Force Aircrew Management Division.

Additionally, it is responsible for providing official aircrew personnel projections for use in various management analyses.

- **The Air Force Personnel Center**, one of three field-operating agencies reporting to the Deputy Chief of Staff of the Air Force, Manpower, Personnel and Services, conducts military and civilian personnel operations such as overseeing performance evaluations, promotions, retirements, separations, awards, decorations and education. The Center also directs the overall management and distribution of both military and civilian personnel.

Since 2013 RPA Pilots Have Been Promoted and Nominated for Education Opportunities at Rates Generally Similar to Pilots in Other Fields

RPA Pilots Have Been Promoted at Rates Generally Similar to Those of Pilots in Other Career Fields

Based on our analysis of Air Force promotion data, the percentage of RPA pilots promoted were generally similar in comparison to the promotion rates of pilots in other career fields since 2013. However, it is important to note that since the population of eligible RPA pilots to be considered for promotion was smaller than other pilot populations, the promotion of one or two RPA pilots could have a large effect on their promotion rate. For example, the RPA pilot promotion rates were within 10 percentage points of the promotion rates for the other types of pilots in

each year of those years in 8 out of 10 promotion boards to major and to lieutenant colonel held during that time frame.[20]

RPA pilot promotion rates from captain to major were generally similar as the promotion rates for other pilots from 2014 through 2017, as shown in figure 2.[21] For example, in 2014, 94 percent of eligible RPA pilots (29 of 31), bomber pilots (47 of 50), fighter pilots (189 of 201) and 91 percent of eligible mobility pilots (355 of 388) were promoted from captain to major. This is an improvement in promotion rates for RPA pilots compared to 2006 through 2012, where RPA pilot promotion rates fell below those for all other pilots in 5 of the 7 promotion boards held.[22]

[20]The Air Force convened 10 promotion boards from 2013 through 2017—one board for promotions from captain to major in 2014, 2015, and 2016, and two boards in 2017. Additionally, the Air Force convened five other boards for promotion from major to lieutenant colonel.

[21] In 2013, the Air Force did not convene a promotion board for captain to major.

[22]GAO-14-316. In this report, we found that RPA pilots were promoted below the average rate of manned aircraft pilots (i.e., fighter, bomber, and mobility pilots) in 20 of 24 boards.

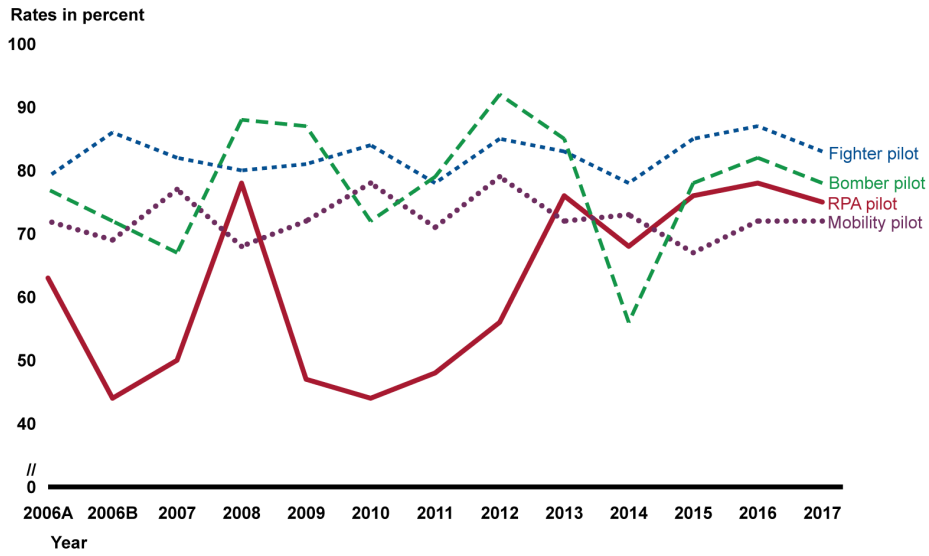
Figure 2: Promotion Rates from Captain to Major for Remotely Piloted Aircraft (RPA) Pilots Compared with Pilots in Other Career Fields from 2006 through 2017, Except 2013

Source: GAO analysis of Air Force data. | GAO-19-155

Notes: In 2013, the Air Force did not convene promotion boards for captain to major and in 2017 it held two promotion boards, noted as “A” and “B”.

Additionally, the promotion rates for RPA pilots from major to lieutenant colonel relative to other types of pilots in 2013 through 2017 showed a similar improvement compared to 2006 through 2012, as shown in figure 3. For example, in 2017, 75 percent of eligible RPA pilots (15 of 20) were promoted, which is generally similar to the promotion rates for the other pilots—78 percent for bomber pilots (18 of 23), 83 percent for fighter pilots (75 of 90), and 72 percent for mobility pilots (143 of 199). However, in 7 of the 8 promotion boards held from 2006 through 2012, RPA pilot promotion rates from major to lieutenant colonel fell below the promotion rates for all other pilots.

Figure 3: Promotion Rates from Major to Lieutenant Colonel for Remotely Piloted Aircraft (RPA) Pilots Compared with Pilots in Other Career Fields from 2006 through 2017



Source: GAO analysis of Air Force data. | GAO-19-155

Note: In 2006, the Air Force held two promotion boards for major to lieutenant colonel, noted as "A" and "B".

The one exception to the promotion rates being generally similar was the rate at which RPA pilots were promoted from lieutenant colonel to colonel. In this case, the rates for RPA pilots diverged notably from the promotion rates of bomber, fighter, and mobility pilots from 2013 to 2017. For example, in 2016, 1 out of the 5 (20 percent) eligible RPA pilots was promoted to colonel. In contrast, 13 of 21 (62 percent), bomber pilots, 32 of 51 (63 percent) fighter pilots, and 34 of 65 (52 percent) mobility pilots were promoted from lieutenant colonel to colonel. However, the promotion rates of RPA pilots from lieutenant colonel to colonel that we calculated should be considered cautiously as fewer than 10 RPA pilots were eligible for promotion boards each year through this time period. The promotion of one or two officers could have a large effect on the promotion rate due to the small number of eligible RPA pilots.

In April 2014, we reported that Air Force officials attributed the low RPA pilot promotion rates from 2006 through 2012 generally to the process

that it used to staff RPA pilot positions at that time.[23] Specifically, they stated that commanders generally transferred less competitive pilots from other pilot career fields to RPA squadrons to address the increased demand. Air Force officials also stated that these officers generally had in their records fewer of the factors that the Air Force Personnel Center identified that positively influence promotions than their peers.[24] They said that because the bulk of RPA pilots who competed for promotion during the time of our previous review was transferred using this process, these were the reasons that RPA pilots had been promoted at lower rates than their peers.

Air Force officials stated that they believed the trend of increased promotion rates for RPA pilots from 2013 through 2017 mostly reflected the change in the population of eligible pilots who were recruited and specialized as an RPA pilot (i.e., the 18X career field). According to Air Force officials, the creation and establishment of this career field resulted in an increase in the number of skilled and more competitive promotion candidates. Specifically, as of September 2018, the number of permanent RPA pilots outnumbered all other types of pilots serving as RPA pilots combined.

RPA Pilots Have Been Nominated to Developmental Education Programs at Rates Similar to Pilots in Other Career Fields

RPA pilots were nominated to attend developmental education programs, such as professional military education, at rates similar to the rates for other pilots from academic years 2014 through 2018, according to our analysis of Air Force data.[25] An officer's attendance at developmental education programs can be a factor that is taken into consideration when being assessed for promotion. Our analysis showed that, for the academic years 2014 through 2018, nomination rates for RPA pilots to Intermediate and Senior Developmental Education programs combined ranged from a low of 25 percent for academic year 2016 to a high of 31

[23]GAO-14-316.

[24]Air Force documentation notes that pilots selected for RPA assignments tended to perform at lower levels on flight-safety evaluations than pilots retained in manned-aircraft squadrons.

[25]An Air Force official within the Office of the Deputy Chief of Staff for Manpower, Personnel and Services, Directorate for Force Development explained that Air Force officers are nominated in a given year for the upcoming academic year, which runs from July of the following year to the end of June one year later. For example, if an officer is nominated in 2018, then the officer would attend school in the 2019 to 2020 Academic Year, which would generally begin in July 2019 and end in June 2020.

percent for academic year 2015. In comparison, nomination rates across the same time period for pilots in other career fields ranged from a low of 21 percent for mobility pilots for academic year 2016 to a high of 35 percent for fighter pilots for academic year 2014. Table 1 provides the various nomination rates for each of the different types of pilots that we analyzed.

Table 1: Nomination Rates to Developmental Education Programs for Remotely Piloted Aircraft (RPA) Pilots Compared with Pilots in Other Career Fields for Academic Years 2014 through 2018

Year		2014	2015	2016	2017	2018
Bomber pilots	Number of eligible nominees	237	248	238	229	239
	Number nominated	64	55	57	61	63
	Nomination rate (percent)	27 percent	22 percent	24 percent	27 percent	26 percent
Fighter pilots	Number of eligible nominees	1,117	1,055	923	896	832
	Number nominated	390	321	224	286	214
	Nomination rate (percent)	35 percent	30 percent	24 percent	32 percent	26 percent
Mobility pilots	Number of eligible nominees	1,372	1,361	1,307	1,284	1,334
	Number nominated	423	371	271	315	329
	Nomination rate (percent)	31 percent	27 percent	21 percent	25 percent	25 percent
RPA pilots	Number of eligible nominees	157	163	159	167	168
	Number nominated	45	50	39	46	47
	Nomination rate (percent)	29 percent	31 percent	25 percent	28 percent	28 percent

Source: GAO analysis of Air Force data. | GAO-19-155

Note: For each academic year we compared the number of RPA pilots and pilots in other career fields that were eligible to attend either Intermediate or Senior Developmental Education programs to the number that were nominated and calculated the resulting nomination rates.

RPA Sensor Operators Have Been Promoted at Rates Similar to Other Enlisted Servicemembers

The Air Force promoted enlisted RPA sensor operators at a rate similar to the rates of all enlisted servicemembers, according to our analysis of Air Force promotion data.[26] Specifically, the Air Force promoted an average of 100 RPA sensor operators (or an average of 26 percent) annually for the period from 2013 through 2017. Similarly, the Air Force annually promoted an average of approximately 27,000 enlisted personnel (or an average of 25 percent) for the same period. Our analysis showed that in 2013 through 2017, promotion rates for RPA sensor operators ranged from a low of 18 percent in 2014 to a high of almost 35 percent in 2017. The promotion rates across the same time period for all other enlisted servicemembers ranged from a low of approximately 19 percent in 2014 to a high of 32 percent in 2017. Table 2 provides the various promotion rates that we analyzed.

Table 2: Air Force Promotion Rates for Enlisted Remotely Piloted Aircraft (RPA) Sensor Operators Compared with All Other Enlisted Servicemembers, 2013 through 2017

Year		2013	2014	2015	2016	2017
RPA sensor operators	Number eligible	226	373	463	488	370
	Number promoted	56	67	113	136	128
	Promotion rate (percent)	25 percent	18 percent	24 percent	28 percent	35 percent
All other enlisted servicemembers	Number eligible	107,071	115,104	115,625	108,270	91,657
	Number promoted	22,474	21,638	28,798	31,024	29,377
	Promotion rate (percent)	21 percent	19 percent	25 percent	29 percent	32 percent

Source: GAO analysis of Air Force data. | GAO-19-155

Note: We compared the combined number of eligible enlisted servicemembers in the ranks of E5 through E9 with the number of these eligible servicemembers who were promoted from 2013 through 2017.

Air Force enlisted servicemembers in the lowest four levels (grades E1-E4) are selected for promotion based on time in grade and time in service. Selection for promotion to the next two levels, known as the non-commissioned officer levels (grades E5 and E6), is based on the Weighted Airman Promotion System to fill the requirement. This system provides weighted points for an individual's performance record and

[26]We compared the combined number of eligible enlisted sensor operators in the grades of E5 through E9 with the number of these eligible servicemembers who were promoted from 2013 through 2017.

service decorations received, and the results of tests to assess an individual's promotion fitness and job skills and knowledge. Selection for promotion to the senior non-commissioned officer level (grades E7-E9) is based on the same Weighted Airman Promotion System plus the results from a central board evaluation. Servicemembers eligible for promotions to the non-commissioned ranks are assessed and then listed from the highest to lowest scores and offered promotion if they fall above a specific cutoff score established to meet quotas within each career field and for each rank.

While enlisted servicemembers must pass knowledge and skills tests to qualify for promotions, officials explained that the resulting promotion rates essentially reflect requirements and are not indicative of competitiveness across career fields as with officer promotion rates. Officials stated that enlisted servicemember promotions are based on the service's numeric personnel requirements for each enlisted grade. To consider an enlisted servicemember for promotion from among those who are eligible, a vacancy must first be required at the next higher grade within that servicemember's occupational area, known as their Air Force Specialty Code that needs to be filled. For example, in 2017, the Air Force required promotions for 128 RPA sensor operators, and officials promoted that many enlisted servicemembers from the cohort of 370 eligible servicemembers.

Air Force Assigned Non-operational Staff Positions Requiring RPA Pilots at High Rates Since 2013

For each year since 2013, the Air Force has assigned over 75 percent of the non-operational staff positions that require an RPA pilot to the organizations that had requested those positions, according to our analysis of service headquarters data. However, the overall number of non-operational staff positions that require an RPA pilot is about one-tenth of the number of those requiring pilots in other career fields. For example, in fiscal year 2018 the Air Force had 83 non-operational staff positions that required an RPA pilot compared to 330 positions requiring fighter pilots. Air Force officials stated that the number of RPA positions was smaller than for other pilots because the career field is relatively new and still growing.

Non-operational staff positions are generally non-flying positions and include assignments to headquarters or combatant command positions. Certain non-operational staff positions can be filled only by qualified pilots. Other non-operational positions are more general in nature and are divided among officer communities in a military service. Officers with aviation expertise, including RPA pilots, at various points in their careers

may rotate through both flying and nonflying positions to broaden their career experiences and Air Force officials stated that staff assignments are essential to the development of officers who will assume greater leadership responsibilities.

Headquarters Air Force prepares allocation or "assignment" plans to provide positions requiring aviator expertise to various Air Force commands and other entities.[27] Under this process, these organizations identify the number of non-operational staff positions requiring aviator expertise (e.g., pilots) they require as well as indicate the type of aviator expertise that is needed to fill those positions, (e.g., fighter, bomber, RPA). Headquarters Air Force then determines the extent to which the staff position requirements can be met in accordance with senior leadership priorities designed to equitably manage the shortage of officers with aviation expertise. The results of this process are outlined in the Air Force's annual Rated Management Directive which reinforces each organization's flexibility for using their entitlements in non-operational staff and other positions.

In some instances, the Air Force is able to assign enough positions to an organization to meet nearly all of its non-operational staff position requirements. For the purposes of our analyses, the assignment rate is determined by the number of positions assigned compared to the number of positions the organization required.[28] For example, in fiscal year 2018 the Air Force assigned 99 percent of the non-operational staff positions that require an RPA pilot to the requesting entities. In other instances, the Air Force assignment rate of non-operational staff positions may be much lower because of competing management priorities or shortages of personnel in a career field. As a result, the Air Force's assignment of staff positions can vary across the different career fields. For example, the Air Force fighter pilot career field has had fewer fighter pilots than its authorization number since 2013.[29] Therefore, the Air Force assignment

[27]For purposes of this report, we use the term "assignment," while the Air Force uses the term "allocate" when referring to the development of its plans to distribute positions requiring aviator expertise among organizations that need such expertise.

[28]According to an Air Force official, the assignment rate does not always equate to the attachment of a person to that position. The number of personnel attached to an organization might be different than its "assignment rate" because a person in the specific career field needed for a position may not be available to fill the position.

[29]GAO, *Military Personnel: DOD Needs to Reevaluate Fighter Pilot Workforce Requirements*, GAO-18-113 (Washington, D.C.: Apr. 11, 2018).

rate for staff positions requiring fighter pilots is significantly lower than the rate for staff positions requiring other types of pilots. For example, in fiscal year 2017, the Air Force assignment rate for staff positions requiring a fighter pilot was 18 percent, which was less than a quarter of the rate for staff positions requiring an RPA pilot, as shown in table 3.

Table 3: Air Force Assignment Rates for Staff Positions That Require Fighter Pilots as Compared to Those Requiring Remotely Piloted Aircraft (RPA) Pilots for Fiscal Years 2013 through 2018

Rates in percent

Fiscal year	2013	2014	2015	2016	2017	2018
Fighter pilots	50	50	44	28	18	29
RPA pilots	85	97	99	90	79	99

Source: GAO analysis of Air Force data. | GAO-19-155

Note: For purposes of this report, we computed an assignment rate as the number of positions an organization is "entitled to" or "assigned" as compared to the number of positions the organization indicates it requires. According to an Air Force official, this assignment rate does not always equate to the actual attachment of a person to that position. The number of people attached to an organization might be different than its "assignment rate" because a person in the specific career field requested for a position may not be available to fill the position.

The Air Force Has Not Reviewed Its Oversight Process to Manage Its Non-operational Staff Positions That Require Aviator Expertise

The Air Force has not reviewed its oversight process to ensure that it is effectively and efficiently managing its review of non-operational staff positions that require aviator expertise, such as RPA pilots.[30] Air Force officials explained that its oversight process for managing these positions requiring pilot expertise consists of a time-consuming, labor-intensive process of exchanging emails and spreadsheets with 57 organizations, such as various Air Force Major commands like the Air Combat Command, the Air Force Special Operations Command, and the National Guard Bureau. According to these officials, this process consists of the maintenance and exchange of spreadsheets and briefing slides with information about every position found throughout the Air Force and in various other entities that are required to be reviewed and validated annually. Additionally, this process is maintained by one official within the Headquarters Air Force who must exchange the spreadsheets via email approximately twice a year with officials from each of the organizations

[30]We previously identified that, while the Air Force had procedures to review their staff positions, it had not comprehensively assessed whether all of its requirements truly needed to be filled with active duty pilots. GAO, *Military Personnel: Actions Needed to Better Define Pilot Requirements and Promote Retention*, GAO/NSIAD-99-211 (Washington, D.C.: Aug. 20, 1999).

that are responsible for annually justifying their continued need for non-operational staff positions requiring aviator expertise. Air Force officials stated that this process does not always produce complete and accurate information in a timely manner as in some instances the information produced is not relevant by the time a complete review of the positions is accomplished.

Headquarters Air Force officials familiar with its oversight responsibilities stated that using a different system would more efficiently and effectively support their ability to manipulate, analyze and share information among the applicable organizations and make informed decisions. For example, these officials explained that over the last 10 years, the Air Force drew down the number of squadrons, but did not do a good job of cross checking that reduced number of squadrons with a revised number of staff positions required for support. Therefore, the number of non-operational staff positions was not adjusted and are now artificially high in some career fields and others may have fewer non-operational staff positions than needed. These officials added that as the new RPA pilot career field has developed, there has been no timely and widely accessible system of checks and balances to establish an accurate number of non-operational staff positions required to support the career field. Further, they said that using a different system that allows them to have more timely and quality information would enhance their ability to manage and make decisions regarding the appropriate mix of expensive pilots and others with aviator expertise between operational line positions and non-operational staff position needs. They said this would better ensure that there is a reasonable range of non-operational staff positions required for each career field, such as for the growing RPA pilot career field.

An October 2017 memorandum from the Air Force Chief of Staff stated that the number of non-operational staff positions which require aviation expertise must be brought into balance with the Air Force's ability to produce the appropriate number of officers with aviator expertise. The memorandum also stated that organizations were strongly encouraged to change their current requirements to meet the available current force levels including converting chronically unfilled non-operational staff positions requiring aviator expertise to positions specifically designated for RPA pilots. As a result of two separate reviews, Air Force officials identified hundreds of these positions that lacked adequate justification or qualifications to support the positions' requirement to be filled by officers

with aviator expertise.[31] For example, in August 2018, out of 2,783 non-operational staff positions, the Air Force found that 513 of these positions were evaluated as lacking adequate justification or mission qualifications to support the need for aviator expertise and 61 positions were eliminated after further review.[32]

Prior to 2010, according to officials, the Headquarters Air Force maintained a web-based management oversight system to review and approve the justifications for its non-operational staff positions requiring aviator expertise that allowed for wide access to and manipulation and timely analyses of information. Additionally, this former system provided multilevel coordination among Headquarters Air Force and its major commands for reviewing the justifications of all of the positions. According to Headquarters Air Force officials, the use of this management oversight system was discontinued in 2010 due to a decision to no longer fund the contractor maintaining the system. In October 2018, officials from one of the Air Force's Major Commands confirmed that the current oversight system in use is time-consuming, does not readily support information analysis and that plans to integrate it with another existing management system had not happened.

The Headquarters Air Force official in charge of managing this process told us that he had submitted multiple requests over the last 3 years to integrate the information being managed with spreadsheets and emails into an existing personnel management system to improve the efficiency of the process. However, according to this official, higher priorities and

[31]The first review in March 2017 was part of the Air Force's Aircrew Crisis Task Force's ongoing work to address a growing shortage of experienced aircrew members. This task force consists of Air Force senior leaders from the headquarters, major commands and other experts addressing strategies, plans and initiatives falling under seven lines of effort: requirements, accessions, production, absorption, retention, sortie production and industry collaboration. Air Force officials stated that they reviewed all positions to identify, among other things, any staff positions with position qualifications requiring fighter pilots that could potentially be changed to accommodate RPA pilots. This review identified 101 positions that specifically required fighter pilot expertise, but were filled at that time by officers with other types of aviator expertise. The task force identified another 279 staff positions requiring aviator expertise that had been chronically unfilled for at least the previous 4 years.

[32]In May 2018, the House of Representatives directed the Secretary of the Air Force to evaluate and justify every staff position requiring a pilot or rated officer (i.e., an officer with aviator expertise) across the Department of the Air Force and joint communities. H. R. Rep. No. 115-676 (2018), accompanying a bill for the *National Defense Authorization Act for Fiscal Year 2019*. See Air Force, Report to Congressional Committees, *Pilot Staff Requirements Validation* (December 2018).

funding issues have precluded the information from being integrated into another existing system. In September, 2018, another Air Force official told us that the Program Management Office that manages a system into which the information could be integrated was behind schedule in implementing several other system updates. Because of these delays, the official acknowledged that no review has yet been done of what is needed to provide the most efficient management oversight process of the information currently being managed via the spreadsheet process. The official said that before any actions could take place, a review of requirements and priorities would be needed in order to make a determination as to what changes could be made. Therefore, he said that there are no decisions or timelines available for reviewing a process that would provide the validation information for non-operational staff positions in a timelier and widely accessible manner.

Air Force instructions state that major commands are required to perform annual aircrew requirements reviews including review and revalidation of all aircrew positions, except for rank of colonel or higher, to ensure aviator expertise is required, and report the results to the Headquarters Air Force Operations Training Division.[33] Further, the Headquarters Air Force Operations Training Division has the responsibility to ensure a management process is in place to provide efficient and effective oversight of the major commands' annual review and revalidation of the aircrew position requirements process. Additionally, *Standards for Internal Control in the Federal Government* states that management should identify needed information, obtain the relevant information from reliable sources in a timely manner, and process the information into quality data to make informed decisions and evaluate its performance in achieving key objectives and addressing risks.[34]

By reviewing its oversight process, the Air Force may be able to identify a more efficient manner to manage its non-operational staff positions that require aviator expertise. A management oversight process that provides timely and widely accessible position justification information may help

[33]Air Force Instruction 11-412, *Aircrew Management* (December 10, 2009) and Air Force Instruction 38-201, *Management of Manpower Requirements and Authorizations* (Jan. 30, 2014). According to an Air Force official, a revised instruction not publically available as of January 25, 2019, changes the name of the Operations Training Division to the Total Force Aircrew Management Division.

[34]GAO, *Standards for Internal Control in the Federal Government*, GAO-14-704G (Washington, D.C.: Sept. 10, 2014).

ensure that the proper type of aviator expertise needed in these positions is up to date. In turn, this could result in a more efficient use of the Air Force's short supply of expensive pilot resources, particularly fighter pilots, and could potentially improve its ability to assign and develop effective leaders, such as those within the growing RPA career field.

Conclusions

The Air Force continues to expand the use of RPAs in its varied missions of intelligence gathering, surveillance and reconnaissance, and combat operations. While the overall number of eligible RPA pilots is much smaller compared to other pilots, over the last 5 years RPA pilots have achieved promotions and nominations to attend developmental education programs at rates that were generally similar in comparison to pilots in other career fields. Additionally, non-operational staff positions requiring RPA pilots have been assigned to entities at high rates since 2013, but the number of positions available to them is smaller than the number that require fighter, bomber, and mobility pilots because the career field is still growing.

Air Force officials have noted problems with the current oversight process which may be hindering its ability to efficiently and effectively manage these non-operational staff positions as required by Air Force policy. For example, the Air Force has recently identified that a large number of these positions designated as requiring officers with aviator expertise lacked adequate justification for that requirement. By reviewing the efficiency and effectiveness of its management oversight process that provides information in a timelier and more widely accessible manner, the Air Force could better ensure that it makes informed decisions regarding the need for pilots in certain non-operational staff positions and is in compliance with policy. It also could help ensure that the Air Force more efficiently uses its short supply of expensive pilot resources. Ultimately, this may positively affect its ability to assign and develop effective leaders, such as those within the growing RPA career field.

Recommendation for Executive Action

The Secretary of the Air Force should review its management oversight process that provides information and documents the justifications of the Air Force's non-operational staff positions requiring aviator expertise, including RPA positions, to identify opportunities for increased efficiency and effectiveness and take any necessary actions. (Recommendation 1)

Agency Comments and Our Evaluation

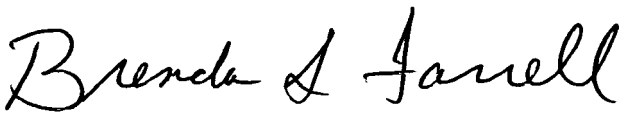
In written comments reproduced in appendix II, DOD concurred with comments to the recommendation, and provided separate technical comments, which we incorporated as appropriate.

DOD concurred with the recommendation to review the management oversight process that provides information and documents the justifications of the Air Force's non-operational staff positions requiring aviator expertise, including RPA positions, to identify opportunities for increased efficiency and effectiveness and to take any necessary actions. In its comments, DOD stated that it agrees the current oversight process is time-consuming and could be more efficient. However, it believes this process is effective because the Air Force was able to validate the need for having pilots fill a majority of its non-operational staff positions during a recent congressionally-mandated review of these positions. As we reported, this review of all staff positions requiring aviator expertise across the Air Force and other defense entities discovered more than 500 of approximately 2,800 positions that were initially found to be lacking adequate justifications, and 61 positions eventually were eliminated. We believe the Air Force's results from this one-time review is an example of how the current process is not consistently yielding up-to-date validations of positions. Further, DOD also stated that while a move to automating the process again has been considered, current funding shortfalls prevent the Air Force from establishing an automated system to increase the process's efficiency. We continue to believe that the Air Force should review its current process in order to identify any viable means to increase its efficiency and effectiveness. Such a review may provide the Air Force with opportunities to more consistently provide the proper type of aviator expertise needed to fill its staff positions as well as potentially provide more leadership opportunities to those within growing career fields, such as RPA pilots.

We provided a draft of this report to DOD for review and comment.

We are sending copies of this report to the appropriate congressional committees, the Acting Secretary of Defense, and the Secretary of the Air Force. In addition, this report will be available at no charge on the GAO website at http://www.gao.gov.

If you or your staff have any questions regarding this report, please contact me at (202) 512-3604 or farrellb@gao.gov. Contact points for our Offices of Congressional Relations and Public Affairs may be found on the last page of this report. GAO staff who made major contributions to this report are listed in appendix III.



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Defense Capabilities and Management

Appendix I: Steps Taken by the Department of Defense and the Air Force to Address Prior GAO Report Recommendations

Since 2014, we have issued three reports assessing the Air Force's remotely piloted aircraft (RPA) workforce management.

- In April 2014, we found that the Air Force had shortages of pilots of remotely piloted aircraft (RPA) and faced challenges to recruit, develop, and retain pilots and build their morale.[1] We also found that Air Force RPA pilots experienced potentially challenging working conditions and were promoted at lower rates than other career fields. We made seven recommendations, and the Air Force generally concurred with our recommendations. It has fully implemented all but one recommendation to analyze the career field effect of being an RPA pilot to determine whether and how being an RPA pilot is related to promotions.
- In May 2015, we found that the Air Force faced challenges ensuring that their RPA pilots completed their required training and that the Office of the Deputy Assistant Secretary of Defense for Readiness had not issued a training strategy that addresses if and how the services should coordinate with one another to share information on training pilots who operate unmanned aerial systems.[2] We made one recommendation related to these findings with which DOD concurred. However, in September 2018, an official from the Office of Secretary of Defense for Readiness stated that there are compelling reasons why a training strategy is no longer necessary and that no action is planned to implement the recommendation.
- In January 2017, we found, among other things, that the Air Force had not fully tailored a strategy to address the UAS pilot shortage and evaluated their workforce mix of military, federal civilian, and private-sector contractor personnel to determine the extent to which these personnel sources could be used to fly UAS.[3] We made five recommendations related to these findings with which the Air Force and DOD generally concurred. As of July 2018, the Air Force has taken some action to address the first three recommendations and officials from the Office of the Under Secretary of Defense for

[1]GAO, *Air Force: Actions Needed to Strengthen Management of Unmanned Aerial System Pilots*, GAO-14-316 (Washington, D.C.: Apr. 10, 2014).

[2]GAO, *Unmanned Aerial Systems: Actions Needed to Improve DOD Pilot Training*, GAO-15-461 (Washington, D.C.: May 14, 2015).

[3]GAO, *Unmanned Aerial Systems, Air Force and Army Should Improve Strategic Human Capital Planning for Pilot Workforces*, GAO-17-53 (Washington, D.C: Jan. 31, 2017).

- Personnel and Readiness have fully implemented the other two recommendations.

In table 4, we present the recommendations that we made to the Air Force and the Under Secretary of Defense for Personnel and Readiness and summarize the actions taken to address those recommendations as of September 2018.

Table 4: Steps Taken by the Department of Defense and the Air Force to Address Prior GAO Report Recommendations Related to Unmanned Aerial Systems Personnel Challenges

Recommendations from GAO-14-316 to the Air Force	Status of Recommendation and Steps Taken to Address Recommendations
The Secretary of Defense should direct the Secretary of the Air Force to update crew ratios for Remotely Piloted Aircraft (RPA) units to help ensure that the Air Force establishes a more accurate understanding of the required number of RPA pilots needed in its units.	**Recommendation Closed-Implemented.** With the conclusion of the Air Force's extensive review of the MQ-1/9 Remotely Piloted Aircraft (RPA) community and its completion of its manpower studies for these units, a new Air Force Manpower Standard was issued in April 2017. In addition to updating crew ratios required for mission execution, this manpower standard also included support staff requirements needed to run an operational unit. Further, in accordance with FY18 Presidential Budget approval timeline, Unit Manning Documents are being updated to reflect the new standard, which will help the Air Force present a clear picture of the number of these units' health consistent with other weapon systems. This action by the Air Force helps it know if it has any Unmanned Aircraft System (UAS) pilot shortfalls even after its current requirement is met, which could exacerbate existing strains on this workforce. Because of these actions, we believe the Air Force met our recommendation. As such, it was closed as implemented.
The Secretary of Defense should direct the Secretary of the Air Force to establish a minimum crew ratio in Air Force policy below which RPA units cannot operate without running unacceptable levels of risk to accomplishing the mission and ensuring safety.	**Recommendation Closed-Implemented.** Officials said that on November 30, 2015 the Air Force established 10:1 as the minimum Crew to Combat Line ratio as directed by the Air Force Chief of Staff, which was later formalized in a March 2017 Air Force Manpower Standard. This action by the Air Force helps it ensure that RPA units are operating at acceptable levels of risk to mission and safety. Because of these actions, we believe the Air Force met our recommendation. As such, it was closed as implemented.

Recommendations from GAO-14-316 to the Air Force	Status of Recommendation and Steps Taken to Address Recommendations
The Secretary of Defense should direct the Secretary of the Air Force to develop a recruiting and retention strategy that is tailored to the specific needs and challenges of RPA pilots to help ensure that the Air Force can meet and retain required staffing levels to meet its mission.	**Recommendation Closed-Implemented**. In December 2015, Air Combat Command concluded its RPA community Culture and Process Improvement Program, which resulted in over 140 initiatives—many of which were still in process as of July 2018. According to Headquarters Air Force officials, these initiatives collectively were designed by the Air Force to serve as a comprehensive strategy for addressing such challenges as, among other things, the recruiting and retention of personnel within the RPA career field. Other recruiting-related actions these officials told us about include having officers with RPA pilot experience serving at the U.S. Air Force Academy as instructors and as the ROTC company commanders and instructors at several large, nationally recognized universities, thus giving attention to the career field among future Airmen. They said this and the overall growing national interest in RPAs and their uses has provided other avenues to identify and recruit pilots and as such increased the inventory of new dedicated RPA pilots from 18 percent at the time of our 2014 report to 54 percent as of April 2018. Further, in July 2018, Headquarters Air Force officials stated that they believed many other initiatives were designed to specifically address RPA pilot retention. Some of these changes include decreasing the number of combat lines that RPA crews are flying; expanding services and RPA operations to additional locations; designating eight RPA reconnaissance squadrons to attack squadrons; authorizing RPA aircrews to log combat time when flying aircraft within designated hostile airspace regardless of the aircrew's physical location; and increasing personnel requirements primarily to stand up new squadrons to get enough personnel to institute an established combat-to-dwell ratio. Most significantly, in July 2018, officials said that they established a new division to be the headquarters focal point for overseeing RPA personnel matters throughout the Air Force. They also stated the Air Force established a career field manager specifically for RPA personnel, placing the career field on par with manned aircraft pilot career fields. Because of these actions, we believe the Air Force met our recommendation. As such, it was closed as implemented.

Recommendations from GAO-14-316 to the Air Force	Status of Recommendation and Steps Taken to Address Recommendations
The Secretary of Defense should direct the Secretary of the Air Force to evaluate the viability of using alternative personnel populations including enlisted or civilian personnel as RPA pilots to identify whether such populations could help the Air Force meet and sustain required RPA pilot staffing levels.	**Recommendation Closed-Implemented.** In December 2015, the Secretary of the Air Force established a program to train enlisted pilots to operate the RQ-4 Global Hawk UAS, which conducts high-altitude reconnaissance missions. In a March 2018 report to Congress, the Air Force stated it was implementing a deliberate plan that allows enlisted pilots to pilot the RQ-4 Global Hawk UAS and at that time, 11 enlisted pilots had completed all training requirements and were flying operational missions. Additionally, another 30 enlisted pilot students were in various stages of flight training and 30 more enlisted pilot candidates had been selected for training during the FY 19 training year. Further, an Air Force selection board met in July 2017 to consider officer as well as civilian candidates for various test pilot positions to include test UAS pilots and selected 63 primary and alternate students to attend U.S. and allied test pilot schools starting in summer 2018. Therefore, these actions by the Air Force shows that it is using alternative personnel populations as RPA pilots, which could help it meet and sustain required RPA pilot staffing levels. Because of these actions, we believe the Air Force met our recommendation. As such, it was closed as implemented.
The Secretary of Defense should direct the Secretary of the Air Force to incorporate feedback from RPA pilots by using existing mechanisms or by collecting direct feedback from RPA pilots.	**Recommendation Closed-Implemented.** In an effort to address concerns identified by Airmen and family members in the UAS community, in August 2015, the Air Combat Command initiated the Culture and Process Improvement Program, which was designed to take place across 12 Air Force Active Duty, Reserve and Guard bases. In December 2015, officials announced the results of this study of the UAS community in an attempt to improve operations and ensure long-term mission success. The Air Force reports that the program generated 143 initiatives that were derived from nearly 2,500 inputs across the UAS community and were focused on improving all aspects of the UAS community including, but not limited to, quality of life, career progression, and operations. As of February 2018, officials stated that the Air Force was almost 60 percent complete with implementation of the 143 initiatives. Given that the Air Force has collected direct feedback from the UAS pilots and others and has implemented a substantial level of actions directed at improving and managing this career field, this should help address recruiting, retention, training, and other challenges related to the UAS community. Because of these actions, GAO believes the Air Force met our recommendation. As such, it was closed as implemented.

Recommendations from GAO-14-316 to the Air Force	Status of Recommendation and Steps Taken to Address Recommendations
The Secretary of Defense should direct the Secretary of the Air Force to analyze the effects of being deployed-on-station to determine whether there are resulting negative effects on the quality of life of RPA pilots and take responsive actions as appropriate.	**Recommendation Implemented.** In August 2015, the Air Combat Command initiated the Culture and Process Improvement Program, which was designed to take place across 12 Air Force Active Duty, Reserve and Guard bases. In December 2015, officials announced the results of this study of the UAS community in an attempt to improve operations and ensure long-term mission success. This study revealed, among other things, that the MQ 1/9 UAS lacks an established requirement for a specified time to be spent doing non-combat related operations known as a "dwell" period for the squadron members. This dwell time would provide opportunities for other activities like attending various types of training and professional military education programs, taking personal leave, etc. In January 2017, the Air Force Chief of Staff approved a memo that established a "combat-to-dwell" ratio requirement as a new concept tailored for deployed-on-station combat operations. By formally establishing a model that includes the establishment of additional RPA squadrons which helps ensure enough personnel to institute the dwell requirement for the deployed-on-station forces, members of one squadron will always be in a "dwell" status-or in other words, not trying to juggle or balance their warfighting duties with other personal responsibilities. The Air Force's action to establish a requirement for MQ 1/9 squadron members to be away from combat operations on a planned basis should help address the effects of being deployed-on-station and help improve UAS pilots' quality of life. Because of these actions, we believe the Air Force met our recommendation. As such, it was closed as implemented.
The Secretary of Defense should direct the Secretary of the Air Force to include the career field effect of being an RPA pilot into the Air Force Personnel Center's (AFPC) analysis to determine whether and how being an RPA pilot is related to promotions and determine whether the factors the Air Force identified in its analysis of Line of the Air Force officers are also related to RPA pilot promotions.	**Recommendation Closed-Not implemented.** As of October 2017, the Air Force had not included the career field effect of being a UAS pilot in its analysis of promotion rates. In its written response to our report, the Air Force stated that it tracks UAS pilot promotion rates as a subset of the Line of the Air Force and therefore factors related to promotions identified in the analysis of the Line of the Air Force are directly related to the UAS pilot promotions. Officials from the Air Force Personnel Center in June 2018 told us again that they have not included the career field effect of being an RPA pilot into any of their analyses and they know of no plans to begin analyzing that as a factor. Therefore, the Air Force does not plan to take any action related to this recommendation. As such, it was closed as not implemented.

Recommendations from GAO-14-316 to the Air Force	Status of Recommendation and Steps Taken to Address Recommendations
Secretary of Defense should direct the Under Secretary of Defense for Personnel and Readiness to address how the services should coordinate with one another in the strategy on UAS pilot training that the Office of the Under Secretary of Defense for Personnel and Readiness is currently drafting.	**Recommendation Closed-Not Implemented.** In September 2018, a DOD official within the Office of the Under Secretary of Defense for Personnel and Readiness said that (1) the services are responsible for training, (2) the services have a common set of tactics, techniques and procedures that promote the operational capabilities of the UAS community;(3) a Joint Chiefs of Staff Instruction exists that defines Joint training standards and Basic and Joint mission qualification levels required to support the Joint force; and (4) the Federal Aviation Agency is now allowing at one site the military to train in the national air space beyond visual line of sight unlike previously. He said that it is the position of DOD that the need for an OSD strategy for UAS training has been overtaken by these events and it does not intend to implement this recommendation. As such, it was closed as not implemented.
Recommendation from GAO-17-53 for the Secretary of the Air Force	**Status of Recommendations and Steps Taken to Address Recommendation**
To help ensure that the Air Force strategies to address UAS pilot shortages are tailored to address remaining issues, such as the significant amount of pilots who are temporarily assigned to the UAS pilot career, the limited amount of cadet interest in the UAS pilot career, and the workload of UAS pilots, we recommend that the Secretary of Defense direct the Secretary of the Air Force to revise the Get Well Plan to address these issues.	**Recommendation Open.** While the Air Force did not revise its Get Well Plan to address these issues affecting the RPA career field, in an effort to address concerns identified by Airmen and family members in the UAS community, in August 2015, the Air Combat Command initiated the Culture and Process Improvement Program, which was designed to take place across 12 Air Force Active Duty, Reserve and Guard bases. In December 2015, officials announced the results of this study and reported that the study generated 143 initiatives that were derived from nearly 2,500 inputs across the UAS community and were focused on improving all aspects of the UAS community including, but not limited to, quality of life, career progression, and operations. As of February 2018, officials stated that the Air Force was currently 57 percent complete with implementation of the 143 initiatives. Additionally, in July 2018, Air Force was in the process of establishing a new division to be the headquarters focal point for overseeing RPA personnel matters throughout the Air Force and they also stated the Air Force established a career field manager specifically for RPA personnel, placing the career field on par with manned aircraft pilot career fields. These latest efforts show that the Air Force is taking actions to address challenges to the RPA community beyond the goals of the Get Well Plan that we identified and on an enterprise-wide level. We believe that this recommendation should remain open until more progress is made.

Recommendation from GAO-17-53 for the Secretary of the Air Force	Status of Recommendations and Steps Taken to Address Recommendation
To help the Air Force ensure that its strategies are having the intended effects, we recommend that the Secretary of Defense direct the Secretary of the Air Force to monitor the extent to which achieving the human capital goals in its strategy helps the Air Force achieve its programmatic goals.	**Recommendation Open.** As of July 2018, the Air Force is in the process of establishing a new division to be the headquarters focal point for overseeing RPA personnel matters throughout the Air Force and they also stated the Air Force established a career field manager specifically for RPA personnel, placing the career field on par with manned aircraft pilot career fields. These latest efforts show that the Air Force is taking actions to address challenges on an enterprise-wide level to the RPA community that we identified and may be developing more up-to-date metrics and procedures for monitoring the extent to which the Air Force is achieving both its RPA human capital and programmatic goals. We believe that this recommendation should remain open until more progress is made.
To help ensure that it is poised to meet future needs for UAS pilots, we recommend that the Secretary of Defense direct the Secretary of the Air Force to explore the potential use of additional flexibilities that would enable it to increase the number of UAS pilots in its workforce.	**Recommendation-Open.** In a March 2018 report to Congress, the Air Force stated it had developed a deliberate plan to allow enlisted pilots to fly the RQ-4 Global Hawk UAS as it provided the ideal environment to expand mission flexibility. Further, as another way to build capability in support of human capital strategies by using flexibilities, an Air Force selection board met in July 2017 to consider officer as well as civilian candidates for various test pilot positions to include test UAS pilots. Finally, the Air Force is seeking legislative changes to allow the Air Reserve Component to perform full time, 24/7, 365 operational missions such as the UAS mission, in Active Guard Reserve status. If allowed, the Air Reserve Component will pursue converting Military Technician positions to Active Guard Reserve status. Additionally, in July 2018, Air Force is in the process of establishing a new division to be the headquarters focal point for overseeing RPA personnel matters throughout the Air Force and they also stated the Air Force established a career field manager specifically for RPA personnel, placing the career field on par with manned aircraft pilot career fields. These latest efforts show that the Air Force is taking actions to address on an enterprise-wide level the challenges to the RPA community that we identified. We believe that this recommendation should remain open until more progress is made.

Recommendation from GAO-17-53 for the Office of the Secretary of Defense for Personnel and Readiness	Status of Recommendations and Steps Taken to Address Recommendation
To help address personnel shortages and meet mission needs cost effectively, we are making a recommendation that the Office of the Secretary of Defense, through the Under Secretary of Defense (Personnel and Readiness) direct the Air Force and the Army to evaluate the workforce mix and the use of federal civilians for UAS pilot positions	**Recommendation Closed-Implemented**. In December 2017, the Assistant Secretary of Defense (Manpower and Reserve Affairs) issued a memo to the Air Force and the Army requesting implementation of actions to meet the recommendations from this GAO report on UAS Human Capital Planning. As part of that memo, the Air Force and the Army were requested to provide an assessment of current UAS workforce mix and plans and of potential modifications to that mix to be included in their program plans for fiscal year 2020. More specifically, they were instructed to include an assessment of the current military manpower allocations for UAS operations, evaluating military essentiality and identifying opportunities for military to civilian conversion when military essentiality does not exist and when such conversions would not compromise desired operational performance. Further, the Air Force and the Army were instructed to provide a detailed assessment of current UAS missions performed by contractors to evaluate if the work is inherently governmental, closely associated with inherently governmental, or should otherwise be performed by government personnel consistent with determining workforce mix procedures in accordance with DOD Instruction 1100.22, *Policy and Procedures for Determining Workforce Mix* (Apr.12, 2010) (incorporating Change 1, Dec. 1, 2017). Because of the direction, the Air Force and the Army submitted their evaluation of their UAS workforce mix in May and June of 2018, respectively, and are in a better position to determine the most efficient combination of resources to meet their mission needs. Because of these actions, we believe DOD met our recommendation. As such, the recommendation was closed as implemented.
To help address personnel shortages and meet mission needs cost effectively, we are making a recommendation that the Office of the Secretary of Defense, through the Under Secretary of Defense (Personnel and Readiness) direct the Air Force and the Army to conduct cost analyses consistent with DOD guidance and ensure cost effectiveness of the UAS pilot workforce mix.	**Recommendation Closed-Implemented.** In December 2017, the Assistant Secretary of Defense (Manpower and Reserve Affairs) issued a memo to the Air Force and the Army requesting implementation actions to meet the recommendations from this GAO report on UAS Human Capital Planning. As part of that memo, the Air Force and the Army were requested to submit, where military essentiality is proven, consideration of adjusting military manpower mix that is informed by a cost analysis consistent with DOD Instruction 7041.04, *Estimating and Comparing the Full Costs of Civilian and Active Duty Military Manpower and Contract Support* (July 3, 2013) and a detailed assessment of current UAS missions performed by contractors to evaluate, among other things, where civilian performance would represent a more cost effective method of accomplishing the work, also consistent with cost analyses procedures in accordance with DOD Instruction 7041.04. Because of this direction, the Air Force and the Army submitted their evaluations of their UAS workforce mix in May and June of 2018, respectively, and are in a better position to determine the most efficient combination of resources to meet their mission needs. Because of these actions, we believe DOD met our recommendation. As such, it was closed as implemented.

Source: GAO analysis. | GAO-19-155

Appendix II: Comments from the Department of Defense

OFFICE OF THE ASSISTANT SECRETARY OF DEFENSE
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WASHINGTON, D.C. 20301-1500

MANPOWER AND
RESERVE AFFAIRS

JAN 2 3 2019

Ms. Brenda S. Farrell
Director, Defense Capabilities and Management
U.S. Government Accountability Office
441 G Street, NW
Washington DC 20548

Dear Ms. Farrell:

This is the Department of Defense (DoD) response to the GAO Draft Report, GAO-19-155, "UNMANNED AERIAL SYSTEMS: Air Force Pilot Promotions Rates Have Increased but Oversight Process of Some Positions Could Be Enhanced," dated December 19, 2018 (GAO Code 102543).

The Department acknowledges receipt of the draft report and concurs with comments. Our comments are included with the enclosed recommendation at TAB A.

Sincerely,

Patricia Mulcahy

Patricia Mulcahy
Director, Officer and Enlisted Personnel
Management

Enclosure:
As stated

GAO DRAFT REPORT DATED DECEMBER 19, 2018
GAO-19-155 (JOB CODE 102543)

"UNMANNED AERIAL SYSTEMS: AIR FORCE PILOT PROMOTIONS RATES HAVE INCREASED BUT OVERSIGHT PROCESS OF SOME POSITIONS COULD BE ENHANCED"

DEPARTMENT OF DEFENSE COMMENTS TO THE GAO RECOMMENDATION

RECOMMENDATION: The GAO recommends that the Secretary of the Air Force should review the management oversight process that provides information and documents the justifications of the Air Force non-operational staff positions requiring aviator expertise, including RPA positions, to identify opportunities for increased efficiency and effectiveness and take any necessary actions.

RESPONSE: The Department concurs with comments.

The Department agrees that current oversight process is time-consuming and could be more efficient. The Air Force had used a contractor to provide a web-based management system for justifying non-operational staff positions that require aviator (rated) expertise until 2010 when it made a resource decision and discontinued the contract. Today, the oversight process is done manually using spreadsheets submitted to Headquarters Air Force via email.

Although this process is time-consuming, it is effective. In December 2018, the Air Force provided a report to the House Committee on Armed Services (HASC) that validated 2,584 rated staff positions across the Air Force and joint enterprise. Additionally, the Air Force review eliminated 106 rated staff positions. The report states, "The Air Force continually reviews rated staff officer requirements to ensure effective utilization of this resource...The semi-annual review highlights any rated staff change and the rated management office adjudicates any new rated staff position with the staff requiring the billet." Through this deliberate process, rated staff positions are re-categorized to line or training positions or are converted to civilian or non-rated positions.

Even though the current oversight process is effective, increased efficiency would enhance the process and minimize the time the Air Force spends reviewing these positions. The process to move to automation and to increase efficiency has been considered; however, current funding shortfalls prevent the Air Force from integrating the Automated Aviation Management System (AAMS) with the Aviation Resource Management System (ARMS).

Appendix III: GAO Contact and Staff Acknowledgments

GAO Contact

Brenda S. Farrell, (202) 512-3604 or farrellb@gao.gov

Staff Acknowledgments

In addition to the contact named above, Lori Atkinson (Assistant Director), Rebecca Beale, Amie Lesser, Felicia Lopez, Grant Mallie, Ricardo Marquez, Richard Powelson, Amber Sinclair, and John Van Schaik made key contributions to this report.

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