



The Future of Unmanned Systems:

UAS “Beta Test” Graduation

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General Norty Schwartz

Introduction

Thank you for that kind introduction. It truly is a pleasure for me to be here amongst a group of people who exemplify selfless service and exceptional sacrifice. Colonel Gursten, thank you for your steadfast leadership of this vital mission. I cannot overstate how important our unmanned aircraft system capabilities really are to our Joint and coalition teammates.

We are here today to pay tribute to the graduates and their families, on a truly momentous occasion: the graduation of eight students in the first “Beta test” class, two graduates directly from undergraduate pilot training, and nine new sensor operators. They have received extensive training in unmanned aircraft system fundamentals and instrument procedures, instruction on Joint firepower, and qualifications in their respective positions.

We also give much-deserved thanks to those who made it all happen: the instructors. Being an instructor is not easy, but have no doubt: you are fulfilling a crucial responsibility that every profession shares in common. For us, that is to qualify a next generation of Air Force warrior professionals. I have no doubt that you have performed admirably, and that you have positioned this new war-fighting discipline for a future, far better than you found it. Teaching your students and transferring all the important lessons you have learned is a testament to all – students and teachers alike – so I commend you for your indispensable efforts.

A Significant Milestone

Today marks another significant milestone in our history with unmanned aircraft. Some here might be surprised to discover that this history actually extends beyond the recent past, in which we have seen unmanned systems emerge into real prominence. Our first sustained use of unmanned aerial vehicles actually occurred during Vietnam, where we flew over 3,400



reconnaissance sorties, between 1964 and 1975, with the Ryan 147 “Lightning Bug.” True to our spirit of innovation and creativity, the “Lightning Bug” was a modified target drone, air-launched from a C-130 and recovered in mid-air by helicopter. Its evolution began in earnest, after the Soviets shot down U-2 pilot Francis Gary Powers in 1960; and, although primitive by today’s standards, these early UAVs proved extremely useful, taking detailed pictures of surface-to-air missile sites, enemy airfields, and ship activity in Haiphong Harbor – all places that were too dangerous for manned aircraft to fly.

Notwithstanding their significant contributions during the war, these UAVs were considered “untested” after the war ended, and did not fare well during the military drawdown. As a result, continued funding of these unmanned aircraft proved to be problematic, as they could not compete for scarce dollars, against proven platforms and weapons of the day, like the B-52 and cruise missiles. In that environment, making the case for an operational need to pursue an expensive and time-consuming development program was difficult. Then-Undersecretary of the Air Force James Plummer, in 1975, noted that “we are going to be cautious about initiating a vehicle development program where we don’t have a good idea of the technological status and requirements of a support system. We simply cannot justify spending money to prove a concept which may have marginal utility.”

How times have changed.

Obviously, today, we are not talking about marginal utility; indeed, the demand for game-changing, UAV-borne capabilities is insatiable, and shows no sign of abating. General Petraeus has called these contributions “invaluable” in recent combat operations; and, as you know here at Creech, better than anyone else in our Air Force, we’re flying them non-stop because of their extraordinary value. Our MQ-1 fleet has logged over 600,000 hours; and while this number by itself is impressive, the accelerated rate at which we’ve accumulated these hours is really the remarkable story. It took us 12 years – from 1995 to 2007 – to fly our first 250,000 Predator hours. In less than *two*



years, we flew our next 250,000 hours; and, we are on track to log the next quarter million in only 13 months.

As we continue significant investments in these aircraft – 320 in the next 5 years – and immediately deploy almost all of them to fly continuous combat air patrols, or “CAPs,” for our Joint and coalition teammates, these flying hours will only continue to multiply. We have come a long way since we started with only one CAP in 2001. After the Joint team realized how vital these aircraft were, they requested more; and, we have delivered, surging nearly everything that we have directly into theater. We’re now flying 37 CAPs in Iraq and Afghanistan, and we’re on track to provide 50 by the end of 2011.

Meeting the Demand

This unbelievable surge would not have been possible without the professional Airmen sitting here today. In the face of adversity, you delivered, and you should be very proud of your efforts. I sure am.

To support further expansion of this critical warfighting capability, we will need more men and women like you, because the reality is, even though we call these aircraft systems “unmanned,” they are anything but that. This system, in fact, is quite manpower intensive. To support each new CAP, we will need 140 more Airmen, half of whom are intelligence professionals to process the raw data, exploit and fuse it with other sources, and disseminate actionable information to the field. Each new CAP also requires at least seven vehicle operators and seven sensor operators – ideally, ten each, to avoid the surge conditions that you’ve been experiencing for an extended period here.

I know that our attempts to meet the requirements of the Joint team caused a strain on our force, on you, and your families; and, I appreciate that while our force is resilient, it is not unbreakable. Therefore, the concerns of this budding UAS career field is a top priority of Air Force leadership, including Secretary Donley and me, especially as we know that we have only scratched the surface of the capabilities that our unmanned systems can provide. Industry has already refueled an unmanned aircraft and demonstrated multi-aircraft control – all feats that only a few contemplated 10 years ago. Given



these technological leaps forward, it's not hard to imagine a multitude of other missions for our unmanned aircraft, including air transport, air refueling, suppressing enemy air defenses, forward air control, combat search and rescue, and more. It also is not difficult to imagine new operational concepts, such as groups of unmanned aircraft flying "swarm" tactics, or unmanned aircraft teaming with and being controlled by manned aircraft.

If we are to continue meeting these operational requirements that are likely to emerge, we must be prepared to address a multitude of institutional and cultural issues. Among other things, we will start by taking inventory of the successes of this Beta class, and noting those areas where we can improve, to ensure that UAS Airmen will have appropriate training, and are provided with the skills and qualifications that are necessary to succeed. Some of these imperatives are clear, like the need to comply with Federal Aviation Administration instrument rating requirements in the national airspace. Others are more ambiguous; but, as we continue down this path, we'll refine our training programs and personnel policies to ensure that they produce and sustain the fully-qualified UAS professionals who will make, among other things, serving as the Al Qaeda operations officer a very, very high-risk endeavor.

Institutional and Cultural Shift

Almost every new adventure begins with a period of austerity and uncertainty. I understand that there are issues with assignments, professional development, advancement, and leadership opportunities. I want to assure you that your concerns have not fallen on deaf ears.

Senator John McCain – of course, a former aviator – asked me about these implications during this May's Air Force posture hearing before the Senate Armed Services Committee. There, he noted that it was a "seminal time" in the history of the Air Force, and asked if the transition to unmanned aircraft would be a "significant cultural adjustment" for the Air Force. I answered him then, in the same way that I do to you today: you are part of the major new Air Force development of the decade. This cultural change for our



Air Force has to do both with the future of these unmanned systems, and how we see ourselves as Airmen. Secretary Donley and I recognize that our Airmen are the linchpin in this shift, and we are giving it our personal attention. I promise you that our efforts to ensure that we take care of you and your families is worthy of your exceptional commitment and continuing sacrifice.

Earlier this year, in June, we celebrated another great accomplishment, with the graduation of our first group of unmanned “patch wearers” from our UAS Weapons School squadron. These tactical experts will further professionalize this community by ensuring that our tactics, techniques, and procedures are sound, and that they are fully integrated with all other Air Force war-fighting disciplines and, as we grow technical expertise from within the community, we will focus too on developing our future UAS leaders. Experience has shown that those who are steeped in the unique technical and cultural considerations of the community will be more effective leaders, and so, we will look to create our future UAS commanders from within the career field, and consider these skilled operators for opportunities equal to those of other career paths.

Be proud that you are the new group of Airmen-warriors, who provide unmatched situational awareness of the battle space to field commanders – who, although operating in a somewhat different setting, must maintain equal vigilance for our teammates in the field; for you must be ready not only to find and fix a target, but if necessary, you also must be prepared to make it go away. You are blazing a trail toward the Air Force of the future – one with a mix of manned and unmanned systems, all of equal value – and you will be in the front row to history, with the game-changing capabilities that you provide.

Conclusion

We are at a critical point for our Air Force – one of transition and uncertainties, but also of immense opportunities. Critical issues, such as tapping the full potential of cyberspace; providing a mix of capabilities to address high-end, low-end, and hybrid threats; and balancing manned and unmanned platforms, face our Air Force, and have profound implications for



our future. These and other issues are being addressed in Washington, in academia, in think tanks, and in the media; and, on the manned-unmanned issue, no more importantly anywhere, than here at Creech. It is you and your families who are living this transformation.

We applaud your efforts as the vanguard into this new and uncharted territory; we appreciate the sacrifices that you are making daily; and, we are working on addressing the institutional and cultural inertia that faces any new innovation. When the steamship, the tank, and yes, the aircraft, were introduced for military application, institutional disorder resulted. When Billy Mitchell insisted that aircraft would be more effective in sinking ships, the notion was considered preposterous, and he was dismissed as a zealot. When Robert Goddard dreamt of traveling beyond Earth's atmosphere, where aircraft could not depend on lift and drag, the military resisted him, and he was marginalized for talking about space travel and missile technology. The UAS community encountered the same sort of resistance, even in our own Air Force. In the words of one Air Force official, after the end of the Vietnam War, "How can you be a 'tiger' sitting behind a console?"

Certainly, there no longer is any doubt about the value of unmanned systems, and of the critical work that you do – and, where the "tigers" reside.

All relevant organizations must adapt to new realities, and here, the reality is an insatiable demand for UAS-borne capabilities, and an evolving relationship between people, machines, and the sky. The technology that initially propelled us toward the skies is now making possible machines that outpace the capabilities of the people we put in them. So, although we have some issues to overcome, know this: the success of our Air Force and our Joint team depend on your personal and professional efforts. There is no doubt of your value to the success of our mission. We are throwing you into the fight quickly. You soon may be called to provide a ground commander with the ability to search a village; to survey areas that, due to rough terrain, are inaccessible to ground forces; or, to pinpoint enemy forces.



Regardless of your tasking, my charge to you is: be vigilant; be unrelenting; and, expect nothing short of peak performance from yourselves, your teammates, and yes, your leaders – including *this one*, and Secretary Donley. We will be, as always, unwavering champions of your efforts, and stewards of your trust. Celebrate our great tradition of innovation and creativity, and look to improve your processes and procedures. Realize and harness your individual brilliance, so that you may develop and leverage your collective genius, as a proud community of UAS Airmen.

Your training here has laid the groundwork. Now, we depend on you to go forth and execute the mission with utmost discipline, precision, and reliability.

Thank you very much for inviting me to speak to you today. I appreciate all that you do, and all that you will do, for our national defense; and, to the families and friends here today, thank you for your enormous sacrifice, which never goes unnoticed. Your service is to be admired, respected, emulated, and supported by the larger Air Force family, on whom – I assure you – you can faithfully rely.

Thank you.