



**NATIONAL HEADQUARTERS
CIVIL AIR PATROL
UNITED STATES AIR FORCE AUXILIARY
105 S HANSELL ST
MAXWELL AFB, AL 36112**

11 FEB 2019

TO: REGION AND WING DOUs AND sUAS POCs

FR: MR AUSTIN WORCESTER, CAP/DOU

RE: 2ND QTR FY 2019 sUAS PROGRAMMATIC UPDATES

ALCON:

To keep everyone up to date, this is our quarterly update on what is going on in the CAP sUAS Program from a National Perspective. Copied in are all the DOUs or POCs (those doing the DOU job but hold a higher position in the chain), that I currently have – for those wings that I don't have a DOU on the roster, I've copied in the commander. I have also copied in our National sUAS Team (whom I'll introduce here shortly). These are your community peers. Many have extensive experience in sUAS operations. This is an outstanding group of members whom will be shaping the face of public safety sUAS operations for many years to come. CAP is currently the largest sUAS operation in the U.S. and we will just continue to grow. We currently have over 1,150 FAA registered airframes and expect nearly 1000 sUAS pilots in our system by the end of the FY. Our program is involved in all three missions of CAP – ES, AE, and Cadet Programs.

As many of you already know, I have retired from the fire service and accepted the full-time position at HQ CAP as the Senior Program Manager for sUAS at Maxwell AFB. So, I packed up from Kansas City and moved to Maxwell AFB to manage this program and started at NHQ in December. The sUAS Program is located at the National Technology Center and we maintain both a programmatic office and sUAS lab in that facility.

Maj Gen Smith & the CAP COO Mr. John Salvadore, have appointed the following volunteer members to the National Staff to serve in the sUAS Program: Lt Col Joel Shreenan (GAWG) will be serving as the Project Manager; Col Brian Bishop (PCR) is the Assistant Project Manager; Maj John Ralph (MDWG) is the Counter sUAS Team Lead; Capt John Webber (INWG) and TSgt Peter Harker (ALWG) are our sUAS Engineering Team Leads; Lt Col Gordon Robertson (DEWG) and Capt Chuck Pearson (COWG) are our sUAS Plans and Future Operations Team Leads; Maj Joe St. Clair (MOWG) is our Stan/Eval and Airspace Integration SME; Lt Col Alan Frazier (NDWG) is the sUAS Training Team Lead; our Aerospace Education Team Lead and Liaison is TBD; 1st Lt Kelley Blair (MOWG) is our Imagery and Intelligence Analysis SME; and finally our CADETS! – C/Maj Linus McFarland (Overseas Sqdn), C/Lt Col Justin Smith (MOWG) and C/2d Lt Liam Hood (MOWG) are our cadets advising their perspective to the National sUAS Team.

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OPERATIONS

I get asked a lot about liability and insurance coverage. Our liability and insurance protections remain the same as in other portions of our organization. If you are under an AFAM you are covered by the federal protections. If you are not operating under an AFAM but are participating in any type of CAP event (meeting, training (with or without a mission number), presentation, etc.) you are covered by the corporate liability protections and insurances.

Cadets CAN AND SHOULD be participating in this programmatic area. A cadet can be a sUAS Mission Pilot at 16 years old. There is no age requirement for a Cadet to be a sUAS Technician.

Cadets may not participate in the "Red Cell" Counter sUAS Program in any capacity at this time (just like our CD programs).

A sUAS Team is considered a sUAS Mission Pilot and a sUAS Technician (The Technician was formally referred to as a Visual Observer). We are using the term sUAS Technician to comply with the proposed FEMA/NIMS national asset typing for sUAS Response Teams.

For a Region/Wing to be declared as having its Initial Operational Capacity (IOC) for ES missions, it must have 5 fully qualified sUAS Teams. For a Region/Wing to be declared as having Full Operational Capacity (FOC), it must have ten (10) such teams. I know it may be difficult for some of the smaller wings to meet this, but we're going with this to start and see how it goes.

The biggest mission, from an operational standpoint, we have is producing orthomosaic/georeferenced images for our customers (predominately FEMA) pre and post event. Secondarily, the Counter sUAS mission has become quite large and becoming operational as we navigate the airspace and COA requirements. Additionally, We are beginning SAR Ground Team integration studies here at HQ and we are looking at developing/fielding an IR capability by FY 2023.

This program is in constant flux and change – please be flexible. Airframes, techniques, and procedures will change as we learn and find best practices. If you know a better way - speak up! The National sUAS team will evaluate your input and determine how to best incorporate it into our procedures/policies. You'll note there are draft regulations in the dropbox. Please provide me your input. We will listen!

There are currently very few sUAS Instructor Pilots, sUAS Check Pilots, or sUAS Check Pilot Examiners in our system. Currently MDWG, NATCAPWG, COWG, DEWG have designated IPs, SETs, and Check Airmen. That said, we have a procedure in place to designate those in the interim (see the training sections of this memo).

HQ CAP and a few of the Regions and Wings currently have teams that can be deployed to a site, as needed, should a major event occur until wings / regions have reached IOC. I am

currently developing a push pack of equipment to be maintained here at HQ CAP that can be deployed as needed, as well as a CONOPS for the upcoming spring storm and hurricane season.

Our goal is to have 90% of our Wings with IOC by the end of this FY, with FOC by the end of the next FY.

Most of our Wings currently have a sUAS Kit (Zeyrock trainer, Phantom 3 or 4 pro, and either an F800 Hexcopter or an Endurance Quad). The remainder of our CAP wings (with the exception of HIWG) will be completed in March. For the general sUAS program, the initial equipment outlay is one kit per Wing. We anticipate that we will incorporate one kit per ICP as that program develops (approx. 150 kits deployed nationwide).

A sUAS SORTIE is defined as your team's departure from your home base or mission base (as applicable). It ends with the return to that location by the team. A sUAS FLIGHT is defined as a takeoff and landing of the sUAS. There can be multiple flights within a sortie. We will track flights within a sortie on a CAPF 109U. A sortie will be tracked in a CAPF 109. I've included a draft CAPF 109U in the dropbox link I'll include below.

sUAS operations will be released by an FRO on a PER SORTIE basis. We will define an FRO's qualifications as we go, but sUAS sorties can currently be released by a GBD / AOBD, OSC, or IC. Traditional FRO's with a Part 107 certificate can also release sorties. We have developed a draft CAPF 99U for use until this process is established in WMIRS.

As in our traditional aviation program, we MAY permit the use of personal airframes for missions ONLY if a corporate airframe is not available (it being on the other side of the states doesn't constitute a corporate aircraft being not available), on a case by case basis with approval from the CAP/DO. Under no circumstances can personal airframes be used in the Counter sUAS mission.

CAP NHQ will apply for and coordinate with the FAA & TSA for airspace waivers & COA's needed for operational missions. Until we say otherwise, we need to make sure these are done completely and properly to protect the organization's interests and relationships.

We have selected Kittyhawk (<https://kittyhawk.io/>) as our enterprise solution to manage our sUAS airframes, maintenance, missions, flights, pilot logs, checklist management and use, airspace information, LAANC authorizations, secure and direct streaming of sUAS video to our customers, being a beta tester for them, etc. We have purchased unlimited licenses and use of their site. Currently, we are doing a soft rollout for our operational Red Cell Teams, but there will be much more about this as we expand its use to our entire CAP sUAS program.

COUNTER sUAS (“RED CELL”)

CAP has received funding from the USAF to conduct Counter sUAS training with selected base Security Forces. We are supporting their training by functioning as an aggressor team and flying pre-scripted routes to allow these forces to train using non-kinetic systems to defeat our sUAS. We use 4 sUAS teams per site. Each involved Wing’s CC, DO, & DOU are already aware of this program and its requirements. We are navigating the unique relationships with the USAF installations, the FAA, and the TSA to get these teams operational. Many of these teams have their equipment and are training. All they need is the final documents from us to start operations.

Red Cell is a special access program within CAP (much like CD and “Green Flag”) with restricted and need to know information. It is a HQ CAP administered program (it is not administered or operated at the Wing or Region Levels). Specially modified sUAS equipment is being assigned to affected wings to facilitate equipment tracking and allow team training with their sites. To participate in this mission, a member must complete a CAPF 17 have it signed by the wing commander and forwarded to the CAP/DO, DOA, or DOU for vetting and approval. Once approved, a Non-Disclosure Agreement must be signed prior to the member being granted program access.

If you are a DOU or POC in an affected wing and did not attend the training at Edwards AFB, please complete a CAPF 17 and NDA ASAP so we can get you involved and fully up to speed.

If you are not in an affected wing, no worries! There is already interest from the USAF and the USN to expand beyond the initial sites, we just need to prove we can do this. WE CAN! I am confident that this program will expand soon well beyond the initial sites, as the interest is very strong...

TRAINING:

How do we train our people you ask?

I understand the lack of equipment can hamper training in your wing/region. The program is going the absolute best it can within its budgetary allowances we must work within. A great suggestion, from one of our members, was for your units to obtain the STEM sUAS kits and Fixed Wing Kits (within those programmatic guidelines) within that program to help you train your units.

For those Wings without a sUAS Kit and a NESA trained person, we will be conducting a special course for those Wings from 3-8 March 2019 at Maxwell AFB, AL. This will bring the entirety of CAP (except for the HIWG) under the sUAS Program.

Personal sUAS may be used for training. BUT! - CAP is not responsible, nor will we repair/replace personal airframes damaged or destroyed in training. Those airframes must be airworthy and properly registered with the FAA.

You do not need a mission number to train your people (this is a common misconception in many units/wings/regions)!

SQTRs still aren't uploaded nor 107 tracking into eServices. I do not have an ETA on those capabilities. IT is extremely overloaded CAP-wide, and they are doing the best they can. I'll keep you up to date. In the meantime, we are using paper copies of the draft SQTRs.

Initially, while there are very limited numbers of instructors and check airmen, Members can videotape their CAPF 5U and CAPF 91U check rides and submit those videos to the CAP/DO, DOA, or DOU for evaluation and approval and endorsement for Instructors, Check Airmen and Check Airmen Examiners. This does not apply to DEWG, NYWG, NATCAPWG, COWG, or MDWG as they have a Check Airman in their respective wings. DOUs will be granted SET status once they have completed their 5U and 91Us. We'll grant, on a case by case, basis SET status to members without the 1-year experience until we build enough cadre of sUAS SETs (this is already permitted by regulation).

I have posted all the Basic and Advanced Pilot Course slides as well as the draft forms, regs, and pamphlets in the following dropbox link:

<https://www.dropbox.com/sh/45x1hh491nl1iqm/AACu04UWDu9bQLpD1GkqWtTta?dl=0>
(THIS IS A NEW LINK!!!!!!!!!!!!!!!)

AEROSPACE EDUCATION:

Many of you are aware of the deletion of Part 336. Many believe that this restricts the RC community and requires Part 107 certification. It does not. All the deletion of part 336 does is allow the FAA to regulate the RC community which it has not yet done. We will permit operations for AE purposes under FAA Part 101. Part 107 certification will not currently be required. That said, a CAPF 5U will be required by those members performing these duties to verify they are safe to operate these airframes.

That said, the FAA now has the authority to regulate the RC community and this could change with little to no notice – we'll stay on top of this and be prepared to adjust as needed.

I strongly encourage you all to reach out to your local Academy of Model Aeronautics (AMA) remote control airfields and work with them, so you have a good place to train and proficiency fly your equipment! There is a national level MOU between CAP and the AMA in which we agree to support each other... I've never been less than very well received with any AMA field I've ever approached.

As always if you have a question or need, please ask or reach out to me at aworcester@capnhq.gov (**NOTE THE NEW EMAIL ADDRESS!!!!!!!!!!**) I'll get back to you ASAP!

V/r

A handwritten signature in black ink, appearing to be 'A. Worcester', with a long horizontal stroke extending to the right.

Austin Worcester
HQ CAP Senior Program Manager
Small Unmanned Aerial Systems