

YORK-POQUOSON SHERIFF'S OFFICE	GENERAL ORDERS
SUBJECT: Patrol Unmanned Aerial Systems	NUMBER: GO 2-61
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AMENDS/SUPERSEDES New Policy	APPROVED: <u>R.G. Monty</u> Sheriff
VLEPSC STANDARDS:	

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POLICY

It is the policy of the Sheriff to utilize small unmanned aerial systems (sUAS) as a valuable supplement to sheriff's office resources, due to their ability to provide a bird's eye view of incident scenes as well as provide the ability observe large areas from an aerial perspective during searches for missing or wanted individuals, tactical operations, crime and accident scene documentation and other critical incidents such as fire and HAZMAT scenes. However, utilization of sUAS requires adherence to FAA regulations and Virginia state code that regulate their use and protect the constitutional rights of citizens.

PURPOSE

The York-Poquoson Sheriff's Office is part of a larger sUAS program known as the R.O.V.E.R team with an array of sUAS aircraft capable of conducting sustained flight operations using a number of different camera systems and payloads. However; it takes a considerable amount of time to activate and deploy the advanced systems to incident locations. The Patrol sUAS program will allow quick deployment of a basic aerial platform at incident scenes until the more advanced systems can begin operations. This policy establishes procedures for the use of patrol issued sUAS aircraft.

DEFINITIONS

- 40 • Certificate of Authorization (COA)
 - 41 ○ A certificate issued by Federal Aviation Administration granting permission for a
 - 42 governmental entity to operate sUAS aircraft in the national airspace under the
 - 43 parameters defined in the COA.
 - 44 ▪ York County possess both a jurisdictional and regional COA with waivers for night
 - 45 flights and flights beyond visual line of sight.
 - 46
- 47 • Air Traffic Control (ATC)
 - 48 ○ Found at airports with a control tower or smaller airports near an airport with a control
 - 49 tower.
 - 50 ○ Grants authorizations to operate sUAS aircraft within the airports controlled airspace.
 - 51
- 52 • Airspace
 - 53 ○ Controlled airspace
 - 54 ▪ The airspace around and above an airport,
 - 55 ▪ Varies depending on the FAA airspace classification,
 - 56 ▪ Requires authorization prior to flying a sUAS,
 - 57
 - 58 ○ Restricted Airspace
 - 59 ▪ Airspace where sUAS flights are strictly prohibited without specific FAA and/or
 - 60 facility authorization and includes but is not limited to:
 - 61 ❖ Over or within federal military installations,
 - 62 ❖ Over or within military training areas,
 - 63 ❖ Over or within federal prisons,
 - 64 ❖ Over or around outdoor professional sporting events, NASCAR races and
 - 65 Division 1 college football stadiums, with a seating capacity of 30,000 or more
 - 66 from 1 hour before the game to one hour following the game or event,
 - 67 ❖ Over or within an area the FAA has placed a Temporary Flight Restriction.
 - 68
 - 69 ○ Un-Controlled Airspace
 - 70 ▪ Only found in FAA Class G airspace.
 - 71 ▪ sUAS aircraft may fly up to 400 feet above ground level (AGL) or 400 feet above
 - 72 and within a 400 foot radius of structures with no airspace authorizations.
 - 73
- 74 • FAA
 - 75 ○ Federal Aviation Administration
 - 76
- 77 • FAA Part 107
 - 78 ○ The FAA regulations that govern the following:
 - 79 ▪ sUAS Aircraft,
 - 80 ▪ sUAS aircraft registration requirements,
 - 81 ▪ Pilot Types, pilot licensure and minimum qualification requirements,
 - 82 ▪ sUAS operational requirements and restrictions.
 - 83
- 84 • LAANC
 - 85 ○ Low Altitude Authorization and Notification Capability

- An online system through third part vendors where authorizations for flights in controlled airspace may be obtained electronically and in near real time.
 - ❖ This system utilizes [FAA UAS Facility Maps](#) to show the maximum altitudes authorized for flights within controlled airspace.
- Night Flight
 - Flights that occur between the end of evening civil twilight and the beginning of morning civil twilight.
 - Generally 30 minutes after official sunset and 30 minutes before official sunrise,
 - Requires specialized initial and recurrent training for pilots and visual observers,
 - Requires the use of anti-collision lighting visible for a minimum of 3 statute miles,
 - Requires the use of trained visual observer for all flights.
 - Requires either:
 - ❖ A Part 107 Night Flight waiver, or
 - ❖ The flight be conducted under authority of the York County jurisdictional COA.
- Notice to Airmen (NOTAM)
 - A notice filed with the FAA Flight Service Station showing the following:
 - sUAS operating area,
 - Maximum Altitude above ground level (AGL)
 - Date and time of operations.
 - A NOTAM is recommended for all sUAS flights.
 - A NOTAM is required for all sUAS flights within controlled airspace.
- R.O.V.E.R.
 - The York County Remote Operated Vehicle Emergency Response team.
 - For additional information see [R.O.V.E.R. sUAS Standard Operating Procedures](#) in the forms folder in Power DMS.
- RPIC
 - Remote Pilot in Command
 - This will be the sUAS crew member operating the controls and flying the sUAS.
- sUAS
 - Small unmanned aerial system commonly referred to as a drone.
- sUAS Registration
 - Per FAA Regulation all sUAS aircraft between .55 pounds and 55 Pounds must be registered with the FAA.
 - ❖ The issued sUAS aircraft registration number, if applicable, must be displayed on the exterior of the sUAS aircraft if the aircraft if being flown outdoors.
- Visual Line of Sight
 - Limits within which a sUAS may be flown in relation the RPIC or visual observer if utilized.

- Visual Observer (VO)
 - This will be the sUAS crew member responsible for observing the aircraft in flight to include:
 - Observing for and reporting to the RPIC obstacles or obstructions in the flight path of the sUAS,
 - Observing for and reporting to the RPIC other manned or unmanned aircraft operating in or approaching the area the sUAS is being operated in.
- Waivers
 - A document issued by the FAA permitting the operation of sUAS aircraft outside of current FAA Part 107 regulations.
 - Individual Part 107 waivers may be obtained from the FAA by licensed pilots for some of the following:
 - Night flights,
 - Flights within controlled airspace when the need to exceed the maximum LAANC published altitude is required to accomplish the mission,
 - Flight in un-controlled (Class G) airspace where the need to exceed 400 feet AGL is required to accomplish the mission,
 - Flights within non-military restricted airspaces,
 - Flights over people.
 - To obtain an waiver to Part 107 the waiver applicant must submit documentation showing the following:
 - The actions or procedures the applicant will use to safely conduct the waived flight activity,
 - How the applicant will mitigate any hazards encountered during the waived flight activity,
 - Type of initial and/or documented recurring training the applicant or other crew members will undergo prior to conducting the waived flight activity.
 - Individual Part 107 waivers from the FAA typically take up to 90 days to secure.
 - When flying under the authority of the York County jurisdictional COA or as a licensed Part 107 pilot for public safety purposes, waivers, not already granted under the COA, or currently held by the RPIC may be obtained from the FAA via email through the FAA's System Operations Support Center.
 - Applicants for SGI waivers will be required to explain how the waived activity will be conducted safely and what actions will be taken to mitigate known hazards.
 - In most cases SGI waivers can be applied for and granted in a matter of minutes.
 - Special Government Interest (SGI) waiver may be obtained by emailing a completed [Expedited SGI Waiver or Authorization For UAS Operations Form](#) to the FAA's System Operations Support Center (SOSC) at: 9-ator-hq-sosc@faa.gov followed up by a phone call to the SOSC at 202-267-8276.

- In emergency situations a verbal SGI waiver may be requested by calling the SOSC, which if granted, shall be followed up as soon as practicable by emailing the completed [Expedited SGI Waiver or Authorization For UAS operations Form](#) to the SOSC.

PROCEDURES

- sUAS Aircraft Selection
 - Selection of sUAS aircraft shall be made in consultation with the Sheriff's Office Commander of the York County R.O.V.E.R team.
 - Selected aircraft shall meet the following requirements:
 - Weigh less than 55 pounds,
 - Be equipped a camera system capable of video recording and still frame photography,
 - ❖ Minimum Video Resolution of 720p at 30 Fps,
 - ❖ Minimum Still photography of 12 megapixels.
 - Be capable of streaming live video either internally or with added equipment,
 - Be equipped or fitted with FAA approved anti-collision lights if flown at night,
 - Personally owned sUAS aircraft shall not be used for any law enforcement or public safety purposes.
- sUAS Crew Members
 - Crew member for sUAS flights shall consist of the following:
 - Remote Pilot in Command (RPIC),
 - Visual Observer (VO)
 - ❖ Recommended but optional for day time flights flown under Part 107 Licensure,
 - ❖ Required if flying under the authority of the York County jurisdictional COA, and
 - ❖ Required and specially trained for all night time flights.
- sUAS Crew Member Qualifications and Training
 - Prior to selection as a patrol sUAS pilot, deputies shall:
 - Be a member of the York County R.O.V.E.R. team,
 - ❖ Due to stipulations by the FAA and waivers granted under the authority of the York County jurisdictional COA, only R.O.V.E.R. team members meeting the qualifications and training requirements established under the COA may fly sUAS aircraft under authority of the COA.
 - Complete a R.O.V.E.R. team approved sUAS pilot training course,
 - Successfully complete and obtain and maintain a FAA Part 107 Commercial Remote Pilot's License.
 - ❖ Unlicensed sUAS pilots shall not fly Sheriff's Office sUAS aircraft outdoors except under the direct supervision of a properly licensed sUAS pilot.
 - ❖ sUAS Pilots are required, by the FAA for night flight operations whether flying under authority of Part 107 licensure with a night waiver or flying under the authority of the York County jurisdiction COA, to complete specialized night training listed below prior to flying at night.

- Selection as a visual observer
 - For daytime flights any York County public safety employee may be utilized as a visual observer.
 - ❖ It shall be the responsibility of the RPIC to brief non sUAS pilot visual observers on their responsibilities and expectations while serving as a visual observer.
 - Visual observers are required by the FAA for night flight operations whether flying under authority of Part 107 licensure with a night waiver or flying under the authority of the York County jurisdiction COA which includes a night waiver.
 - ❖ The specialized night training listed below shall be completed by anyone prior to performing the duties of a visual observer during night flights.
- Prior to conducting any night flights pilots and visual observers shall:
 - Complete documented and recurring R.O.V.E.R. team night flight training or an approved documented initial and recurring night flight training course which covers the following:
 - ❖ How to recognize and overcome visual illusions caused by darkness,
 - ❖ Understanding physiological conditions which may affect night vision,
 - ❖ Crew member and aircraft requirements for night flight.
- sUAS Equipment
 - The following equipment shall be issued to patrol sUAS pilots:
 - sUAS aircraft,
 - sUAS aircraft flight batteries,
 - sUAS aircraft flight controller,
 - Propeller guards, if aircraft is to be flown indoors,
 - Wi-Fi enabled cellular telephone unless the flight controller is equipped with an internal monitor and Wi-Fi capability,
 - Flight battery charger,
 - Video streaming device if required,
 - Required storage media.
- sUAS Maintenance
 - All sUAS aircraft shall be maintained in accordance with manufacturer's recommendations.
 - The sUAS pilot shall be responsible for the following:
 - Daily aircraft inspection to determine flight worthiness,
 - Pre-flight and post flight inspections,
 - Minor repairs such as propeller changes,
 - Flight controller firmware updates.
 - All other maintenance, other than routine maintenance, shall be performed by individuals qualified to perform the maintenance tasks.
 - All maintenance tasks, other than daily inspections, pre-flight or post flight inspections, shall be logged in the sUAS maintenance log.
 - A maintenance log shall be maintained for each sUAS aircraft. The maintenance log shall be:
 - ❖ The computerized flight and maintenance log utilized by the R.O.V.E.R. team.
 - The log shall note the following:
 - ✓ Date and repair completed,
 - ✓ Name of person completing the repair.

- All scheduled sUAS aircraft maintenance shall be performed by the RPIC the patrol sUAS aircraft is issued to.
- ❖ All scheduled maintenance tasks shall be logged and signed off on by the person completing the scheduled maintenance.

OPERATIONS

- Patrol sUAS aircraft may be used for, but not limited to the following:
 - Searches for missing persons,
 - Searches for fleeing suspects, if a law enforcement officer is in hot pursuit,
 - Searches for a suspect fleeing the scene of a crime,
 - Documenting reportable accidents or for accident reconstruction,
 - Documenting crime scenes if a search warrant or consent has been obtained,
 - Surveillance of the primary residence of a person wanted on a felony charge if an arrest warrant or capias has been obtained,
 - Support of Fire and Life Safety personnel at incident scenes,
 - Hazardous Materials (Hazmat) incidents,
 - Damage assessment following a natural disaster,
 - Areas prone to flooding before, during or following a weather event,
 - Over watch of a location where a search warrant is being executed.
 - To search the inside of a building following a forced entry burglary if it is believed the offender may still be inside the building.
- sUAS Operating Parameters
 - The sUAS pilot in command shall have the final authority regarding issues of flight safety and conditions of flight when deciding if a flight can be conducted safely and within the sUAS aircraft capabilities and FAA regulations.
 - Sheriff's Office patrol sUAS aircraft shall not be operated in the following:
 - Rain, unless the sUAS aircraft is rated for flying in moisture,
 - Fog, unless the sUAS aircraft is rated for flying in moisture,
 - Snow, Unless the sUAS aircraft is rated for flying in moisture,
 - ❖ Command level officers with the York-Poquoson Sheriff's Office may authorize the use of patrol sUAS aircraft during adverse weather conditions in extreme circumstances when the mission tasking outweighs the potential risk of sUAS aircraft loss due to weather conditions, such as:
 - Active shooter situations,
 - A law enforcement officer is shot or being shot at,
 - Any incident where the information obtained from the sUAS flight may be used to protect individuals from serious bodily injury or death.
- At night unless both the pilot and observer are night flight qualified and with a night flight waiver,
- In controlled airspace, class B, C, D, and E airspace without airspace authorization,
- Above 400 feet AGL without a waiver,
- Above the LAANC approved altitude, in controlled airspace, without a waiver,
- From or over a military installation, other restricted airspace, or if a TFR is in place without permission from the installation command and or FAA permission for other restricted airspaces,
- Over people, without a waiver,
- Over moving vehicles, without a waiver,
- Beyond visual line of sight of the pilot, or visual observer if utilized, without a waiver,

- ❖ Multiple visual observers may be used as long as each observer maintains direct communication with the pilot either verbally or through use of a communications system.
- Any time the pilot in command deems the flight cannot be conducted safely for any reason.
- sUAS propeller guards shall be utilized for all indoor patrol sUAS flights.
- The pre-programmed automatic return to home altitude shall not exceed 400 feet AGL in class G airspace or the maximum altitude permitted in controlled airspace in accordance with the LAANC system, UAS facilities map.
- Any flights within controlled airspace which are required to be flown above the maximum altitude authorized through the LAANC system will require a SGI waiver be obtain prior to the flight.
- sUAS Deployment
 - Strict adherence to individual's constitutional rights under the 4th Amendment and requirements under the Code of Virginia must be observed at all times sUAS aircraft are used.
 - Indoor use of a sUAS aircraft is not regulated by the FAA. However; when flying a sUAS aircraft from an outdoor location to inside a building, FAA regulations shall be followed during all outdoor phases of flight until the aircraft crosses the threshold entering then exiting a building.
 - Section [19.2-60.1](#), Code of Virginia, prohibits the use an unmanned aircraft (sUAS) except during the execution of a search warrant or the following circumstances:
 - For training purposes,
 - When an Amber, Senior Alert or Blue Alert is activated,
 - Where the use is determined necessary to alleviate an immediate danger to any person,
 - Following an accident where a report is required,
 - To survey an accident scene or for purposes of crash reconstruction,
 - A person with legal authority consents to the warrantless search,
 - To survey a primary residence of a subject of an arrest warrant in order to formulate a plan to execute an existing warrant or capias for a felony offense,
 - Locate a person sought for arrest when such person has fled from a law enforcement officer and a law enforcement officer remains in hot pursuit of such person,
 - Conduct damage assessments,
 - Conduct traffic assessments,
 - Conduct flood state assessments,
 - Conduct wildlife assessments,
 - In support of the Commonwealth or other locality for purposes other than law enforcement.
 - Unless one of the exemptions listed above is present, sUAS flights shall not be launched from private property without consent of the property owner nor be flown within 50 feet of a residential dwelling in accordance with Section [18.2-121.3](#), Code of Virginia.
 - Flights from private property, such as a shopping center, with a public access parking lot may be conducted without owners consent unless the purpose of the flight is to surveil a business or a person on the property where the flight is taking place, unless a search warrant has been obtained or one of the exemptions above is present.
- Supervisor responsibilities

- Any York-Poquoson Sheriff's Office supervisor may authorize the use of a Patrol sUAS.
- The supervisor authorizing the sUAS usage shall ensure that the provisions of Section [19.2-60.1](#), Code of Virginia are met prior to authorizing the sUAS use.
 - Nothing in the policy shall preclude the supervisor from requesting the deployment of the R.O.V.E.R. team.
- The supervisor or supervisor's designee shall obtain any required permissions in accordance with Section [18.2-121.3](#), Code of Virginia prior to the flight of patrol sUAS aircraft.
- sUAS Pilot in Command responsibilities
 - The sUAS pilot in command is ultimately responsible for safely and legally conducting any patrol sUAS flights.
 - The sUAS pilot in command shall:
 - Respond to the scene Level 3 emergency response, unless directed otherwise.
 - Verify with the Supervisor or his designee that any necessary permissions have been obtained,
 - Determine if the mission can be flown safely and within the capabilities of the sUAS aircraft,
 - Determine if the flight will be flown under:
 - ❖ FAA Part 107 regulations, or
 - ❖ The York County jurisdictional COA.
 - Obtain any necessary weather briefings,
 - Obtain necessary airspace authorization if the flight is to be conducted in controlled airspace,
 - File any required NOTAMs prior to conducting the flight,
 - Obtain any required SGI waivers,
 - Safely conduct the flight.
 - Advise the supervisor if the flight cannot be conducted for any reason.
 - ❖ The sUAS pilot is the final authority regarding flight conditions and safety and may decline to conduct the flight if he/she determines the flight cannot be conducted safely due to:
 - Hazards in the area which would make the flight unsafe,
 - Weather conditions,
 - ✓ Command level officers may direct the flight be conducted in adverse weather conditions if the flight is being conducted to prevent serious injury or death to individuals.
 - The flight would be in violation of FAA regulations,
 - Record via video and still images as necessary, all mission flights,
 - Properly document and upload all mission flight activities.
- sUAS Mission Documentation
 - All patrol sUAS missions shall be video recorded either through aircraft on board video recording or streaming remote video recording equipment.
 - All patrol sUAS missions shall be documented as follows:
 - sUAS aircraft telemetry data shall be uploaded into the Sheriff's Office flight management system or through a manual log entry identifying the following:
 - ❖ Date of flight,
 - ❖ Objective of flight (Mission type),

- ❖ Aircraft used,
 - ❖ Pilot in Command,
 - ❖ Visual observer, if utilized.
- A supplemental report shall be written to the original incident report listing at a minimum the following:
 - ❖ Make and model of sUAS aircraft used,
 - ❖ Date and time the mission began,
 - ❖ Date and time the mission ended,
 - ❖ Pilot in Command,
 - ❖ Visual observer(s), if utilized,
 - ❖ Weather conditions during the mission,
 - ❖ Whether video or still images were obtained,
 - ❖ Results of the mission,
 - ❖ Reason for mission cancellation if applicable.
 - A separate incident report shall be generated for sUAS mishaps which requires a FAA accident/mishap report to be filed.
 - ❖ A copy of the FAA accident/mishap report shall be attached to Sheriff's Office incident report.
 - ❖ A copy of the Sheriff's Office accident/mishap incident report and FAA accident/mishap report along with any associated video or still image shall be forwarded to the Sheriff's Office R.O.V.E.R. team Commander and the Commander of the Administrative Services Division if different from the R.O.V.E.R. team Commander.
 - Mission video recordings that contain evidentiary video shall be uploaded to the Sheriff's Office body camera/in car camera video storage system.
 - Still mission images shall be uploaded to the Sheriff's Office Network image drive.
 - ❖ All mission video and still images shall be identified by the incident/case number.
- Patrol sUAS Aircraft Accidents/Mishaps
 - If flying under FAA Part 107 licensure, a FAA accident/mishap report shall be filed by the RPIC within 10 days for any sUAS accident/mishap involving any of the following:
 - ❖ Serious injury or loss of consciousness of any person as a result of the flight,
 - Serious injury is defined as the following:
 - ✓ Hospitalization for more than 48 hours, commencing within 7 days from the date the injury was received,
 - ✓ A fracture of any bone, except simple fractures to fingers, toes or nose,
 - ✓ Severe hemorrhages, nerve, muscle, or tendon damage,
 - ✓ Involving an internal organ,
 - ✓ Involving second or third degree burns, or any burn affecting more than 5 percent of body surface.
 - Damage to any property, other than the sUAS aircraft, unless one of the following conditions is satisfied:
 - ✓ The cost of repair, including materials and labor, does not exceed \$500.00.
 - ✓ The fair market value of the property does not exceed \$500.00 in the event of a total loss.

- 481 ▪ If flying under the York County jurisdictional COA a FAA accident/mishap report shall
482 be filed by the RPIC within 24 hours for accidents/mishaps involving the following:
483 ❖ All accidents/mishaps listed above and if any of the following occur during flight:
484 ➤ Total unmanned aircraft loss,
485 ➤ Substantial damage to sUAS aircraft systems where repair is required prior to
486 further flight,
487 ➤ Damage to property other than the sUAS aircraft,
488 ➤ Malfunction or failure of onboard flight control or navigation system,
489 ➤ Malfunction or failure of ground control station flight control hardware or
490 software,
491 ➤ A power plant (Engine/motor) failure,
492 ➤ A in-flight fire,
493 ➤ A Collision with any other aircraft,
494 ➤ A deviation from ATC clearance,
495 ➤ A lost link resulting in:
496 ✓ A fly-away, or
497 ✓ Execution of a pre-planned loss link procedure.