
Small Unmanned Aerial System (sUAS) Operations

606.1 PURPOSE AND SCOPE

The purpose of this policy is to establish guidelines for the use of a small Unmanned Aircraft System (sUAS) and for the storage, retrieval and dissemination of images and data captured by the sUAS.

606.2 DEFINITIONS AND ACRONYMS

Definitions related to this policy include:

Crewmember (sUAS) - A person assigned to perform an operational duty during operations. A sUAS crewmember includes the Remote Pilot in Command, Person Manipulating the Controls, Sensor Operator and Visual Observers, but may include the Program Coordinator, Chief Pilot or other persons as appropriate or required to ensure safe operation of the sUAS.

Crew Resource Management (CRM) - The effective use of all available resources including human, hardware, software, and information resources.

CFR-Code of Federal Regulations

FAA- Federal Aviation Administration

FAR- Federal Aviation Regulations

National Airspace System (NAS) - The network of United States airspace: air navigation facilities, equipment, services, airports or landing areas, aeronautical charts, information/services, rules, regulations, procedures, technical information, manpower, and material. Included are system components shared jointly with the military.

Person Manipulating the Controls - A person who is controlling a sUAS under the direct supervision of a RPIC.

Remote Pilot in Command (RPIC) - A person who, through skill, training and knowledge, holds a remote pilot certificate with a small Unmanned Aircraft System (sUAS) rating issued by the FAA and has the final authority and responsibility for the operation and safety of a sUAS operation conducted under 14 CFR part 107.

Safety Risk Management (SRM) - A formalized, proactive approach to system safety. SRM is a methodology that ensures hazards are identified; risks are analyzed, assessed, and prioritized; and results are documented for decision makers to transfer, eliminate, accept, or mitigate risk.

Scheduled Maintenance (Routine) - The performance of maintenance tasks at prescribed intervals.

Small Unmanned Aircraft System (sUAS) - A small unmanned aircraft and its associated elements (including communication links and the components that control the small unmanned

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aircraft) that are required for the safe and efficient operation of the small unmanned aircraft in the NAS, including launch and recovery systems and equipment.

Sensor Operator (SO) -A sUAS crewmember that employs airborne sensors in manual or computer-assisted modes to actively and/or passively acquire, track and monitor airborne, maritime and ground objects. Additionally, SO's may also be responsible for the associated duties of a VO, as briefed by the RPIC, if a VO is utilized or required for the mission.

Unmanned Aircraft (UA) - An Aircraft that is operated without the possibility of direct human intervention from within or on the aircraft.

Unscheduled Maintenance (Non-Routine) - The performance of maintenance tasks when mechanical irregularities occur.

Visual Line of Sight (VLOS) - Means that any sUAS Crewmember is capable of seeing the aircraft with vision unaided by any device other than corrective lenses, spectacles or contact lenses, in order to know the sUAS's location, determine the UA's attitude, direction of flight, observe the airspace for other air traffic or hazards, and determine that the sUAS does not endanger the life or property of another.

Visual Observer (VO) - A person who is designated by the Remote Pilot in Command to assist the RPIC and/or the Person Manipulating the Controls of the sUAS to see and avoid other air traffic or objects aloft or on the ground.

606.3 POLICY

A sUAS may be utilized to enhance the Sheriff's Office mission of protecting lives and property when other means and resources are not available or are less effective or when use of the sUAS will expedite operations and safeguard Office personnel. The Sheriff's Office use of a sUAS will be for Public Safety types of operations to include training or any other reasonably applicable commercial operation covered by CFR 14 Part 107. Any use of a sUAS will be in strict accordance with constitutional and privacy rights and Federal Aviation Administration (FAA) regulations.

606.4 PRIVACY

The use of the sUAS potentially involves privacy considerations. Absent a warrant or exigent circumstances, sUAS operations shall take reasonable precautions to avoid inadvertently recording or transmitting images of areas where there is a reasonable expectation of privacy (e.g., residence, yard, enclosure). For example, a reasonable precautions could include deactivating or turning the imaging viewing or recording devices away from such areas or persons during sUAS operations.

606.5 SUAS CREWMEMBERS

The sUAS program shall be comprised of sUAS Crewmembers assigned by the Sheriff or designee including the RPIC, Person Manipulating the Controls, SO's and VOs, as well as other persons as appropriate or required to ensure safe operation of the sUAS. Fire Chiefs and Police Chiefs in Carlton County are able to submit personnel from their agencies to the Sheriff for inclusion on the drone team. Other agency personnel must follow Carlton County Sheriff's Office drone related policies, training, and certification requirements.

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606.5.1 ADMINISTRATIVE

The procedures/policies contained in this manual are issued by the authority of the Sheriff. As such it is an official document of the Carlton County Sheriff's Office.

The procedures/policies are not intended to be all-inclusive, but as a supplement to other office guidelines and policies.

The procedures/policies have been written to address unmanned aircraft operations as they existed when the procedures/policies were drafted. Equipment, personnel, environment (internal and external), etc., change over time. The management of change involves a systematic approach to monitoring organizational change and is a critical part of the risk management process. Given this fact, it is essential that these procedures/policies be periodically updated as necessary. The entire procedures/policies will be reviewed annually to assure it is up to date. Any changes to the procedures/policies will be communicated expeditiously to all affected personnel.

A copy of this procedures/policies (electronic or paper) will be issued to every member having unmanned aircraft responsibilities. In addition, a copy of the procedures/policies will be present during all UAS operations.

606.5.2 ORGANIZATION

The CCUAS Team will fall under the Carlton County Sheriff's Office, Emergency Management Division and report to the Chief Deputy and Sheriff.

CCUAS Team members shall be comprised of personnel assigned by the Sheriff or his/her designee and may include, pilots, visual observers and others deemed necessary. All pilots shall complete and pass the FAA part 107 requirements.

Unmanned aircraft operations are under the command of the Sheriff or his/her designee. Control and supervision of flight operations are hereby delegated to the trained pilots.

606.5.3 PERSONNEL

The Carlton County Emergency Management Director under the direction of the Chief Deputy and Sheriff is responsible for overall management and supervision of the operation, which includes budget preparation and control.

606.5.4 PROGRAM COORDINATOR

The Sheriff may appoint a program coordinator who will be responsible for the management of the UAS program. If a sUAS Program Coordinator is not designated, these duties are delegated to the Emergency Management Director. The program coordinator will ensure that policies and procedures conform to current laws, regulations and best practices and will have the following additional responsibilities:

- Ensuring the sUAS models that are operated, leased or purchased are in compliance with FAA regulations.
- Ensuring the sUAS is adequately registered (including timely renewals and updating of information) and marked, and that there is adequate proof of ownership.
- Ensuring that all sUAS models are properly registered with the County Insurance Policy.
- Developing protocol for conducting criminal investigations involving a UAS, including documentation of time spent monitoring a subject.

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- Implementing a system for public notification of UAS deployment.
- Coordinating the FAA Certificate of Waiver or Authorization application process and ensuring that the applicable Waivers or Authorizations are current.
- Ensuring that all authorized sUAS have completed all required FAA and office-approved training in the operation, applicable laws, policies and procedures regarding use of the sUAS.
- Developing uniform protocol for submission and evaluation of requests to deploy a UAS, including urgent requests made during ongoing or emerging incidents. Deployment of a UAS shall require authorization of the Sheriff or the authorized designee, depending on the type of mission
- Developing a procedure within this policy for the activation of the sUAS during all operational call-outs for both in and out of county requests.
- Developing a protocol to fully document all missions.
- Developing an operational protocol governing the deployment and operation of a sUAS including, but not limited to, safety oversight, use of Visual Observers, establishment of lost link procedures and communication with air traffic control facilities.
- Developing a sUAS inspection, maintenance and record-keeping protocol to ensure continuing airworthiness of a sUAS, up to and including its overhaul or life limits.
- Developing protocols to ensure that all data intended to be used as evidence are accessed, maintained, stored, and retrieved in a manner that ensures its integrity as evidence, including adherence to chain of custody requirements. Electronic trails, including encryption, authenticity certificates and date and time stamping, shall be used as appropriate to preserve individual rights and to ensure the authenticity and maintenance of a secure evidentiary chain of custody
- Developing protocols that ensure retention and purge periods are maintained in accordance with established records retention schedules.
- Facilitating law enforcement access to images and data captured by the sUAS.
- Recommending program enhancements, particularly regarding safety and information security.
- Ensuring that established protocols are followed by monitoring and providing periodic reports on the program to the Sheriff.

606.5.5 CHIEF PILOT

The Sheriff may designate, up to two pilots to act as Chief Pilot, who shall be subordinate to the sUAS Program Coordinator. If a Chief Pilot is not designated, the following duties will be delegated to the sUAS Program Coordinator or Emergency Management Director. The Chief Pilot will be responsible for coordinating training and to assist the Program Coordinator as designated. Additional duties of the Chief Pilot include:

- Ensuring that all sUAS Crewmembers understand applicable regulatory requirements, standards and organizational safety policies and procedures.
- Ensuring that all sUAS Crewmembers are aware of and remain vigilant to the Office's safety culture.
- Ensuring that sUAS Crewmembers are consistently following any and all sUAS

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established standardized operational procedures.

- Evaluating sUAS Crewmember performance to ensure compliance with organizational goals, objectives and regulatory requirements.
- Reviewing any and all sUAS established standardized operational procedures, to maintain the highest level of safety.
- Reviewing sUAS safety related material with all sUAS Crewmembers at least once per year.

606.5.6 REMOTE PILOT IN COMMAND (RPIC)

A person who holds a remote pilot certificate with a small Unmanned Aircraft Systems (sUAS) rating and has the final authority and responsibility for the operation and safety of a sUAS operation conducted under 14 CFR part 107.

- To be considered for selection as a RPIC, applicants must meet any requirements imposed by the Sheriff.
- A RPIC's primary duty is the safe and effective operation of the sUAS within the National Airspace System (NAS) in accordance with the manufacturers' approved flight manual, FAA regulations, any approved certificates of authorization or waivers, and all the Sheriff's Office policies and procedures applicable to the drone program.
- Pilots must maintain a current FAA Remote Pilot Certificate, the cost of which may be reimbursed by the Sheriff's Office.
- In order for a RPIC to fly a mission, the RPIC should have completed three (3) currency events within the previous 90 days. A currency event can be a training flight or a mission flight, but must include a takeoff and landing.
- Pilots may be temporarily or permanently removed from flight status at any time by the Sheriff or designee for reasons such as performance, proficiency at operating the sUAS or any other reason deemed appropriate by the Sheriff or designee.

606.5.7 SENSOR OPERATORS (SO)

The Sensor Operator is a sUAS crewmember that employs airborne sensors in manual or computer-assisted models to actively and/or passively acquire, track and monitor airborne, maritime and ground objects. Additionally, SO's may also be responsible for the associated duties of a VO, as briefed by the RPIC. Additional duties of the SO also include:

- Maintaining responsibility for the law enforcement aspect of the mission.
- Assisting the RPIC in maintaining visual situational awareness of the airspace and surrounding area and advising the RPIC of any imminent hazards such as other aircraft, terrain, and adverse weather conditions.
- Operating the sUAS's payloads such as cameras and thermal imagers in addition to handling all radio communications between ground units and dispatch.
- Remaining alert for suspicious persons or activities on the ground and coordinate response by ground units.
- Avoiding unnecessary communications with the RPIC during takeoff and landing.
- Acting as the custodian of evidence. In this capacity, the SO is responsible for the safeguarding and proper processing of any evidence including, but not limited to,

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digital imagery to include still and video images.

606.5.8 VISUAL OBSERVERS (VO)

The Visual Observer is responsible for assisting the RPIC and/or the person manipulating the flight controls with scanning the airspace surrounding sUAS operations in order to identify hazards and maintain Visual Line of Sight-(VLOS) of the sUAS. Additional duties of the VO will include:

- A VO must maintain effective communication with the RPIC and/or the person manipulating the flight controls of the sUAS at all times.
- The VO will assist the RPIC in maintaining situational awareness of the airspace and surrounding area through direct visual observations and advise the RPIC of any imminent hazards such as other aircraft, terrain and any adverse weather conditions.
- The VO shall remain alert for suspicious persons or activities on the ground and coordinate a response by ground units.
- The VO will avoid unnecessary communications with the RPIC during takeoff and landing.

606.6 USE OF SUAS

Only certified RPIC's who have completed the required training shall be permitted to operate the sUAS, unless a pilot is training to acquire a sUAS RPIC certificate, and is operating directly in the presence of and under the authority of a current RPIC.

The sUAS may be used in the following situations without a search warrant as long as the mission meets one of the exceptions to the search warrant listed below:

1. During or in the aftermath of an emergency situation that involves the risk of death or bodily harm to a person.
2. Over a public event where there is a heightened risk to the safety of participants or bystanders.
3. To counter the risk of a terrorist attack by a specific individual or organization if the agency determines that credible intelligence indicates a risk.
4. To prevent the loss of life and property in natural or man-made disasters and to facilitate operational planning, rescue, and recovery operations in the aftermath of these disasters.
5. To conduct threat assessment in anticipation of a specific event.
6. To collect information from a public area if there is reasonable suspicion of criminal activity.
7. To collect information for crash reconstruction purposes after a serious or deadly collision occurring on a public road.
8. Over a public area for officer training or public relations purposes.
9. For purposes unrelated to law enforcement at the request of a government entity provided that the government entity makes the request in writing to the law enforcement agency and specifies the reason for the request and proposed period of use.

A search warrant must be obtained for any flights that are not covered by one or more of the above exceptions.

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606.7 SEARCH WARRANTS

sUAS aerial operations that do not meet one or more of the exceptions to the search warrant requirement listed above must get a search warrant. The search warrant affidavit must include the following as a "data collection statement":

- The persons that will have the power to authorize the use of the sUAS;
- The locations in which the sUAS will operate; and
- Whether the sUAS will collect information or data about individuals or groups of individuals, and if so:
- The circumstances under which the sUAS will be used.

The search warrant return must indicate whether electronic communication information was or was not collected during the time frame the sUAS was utilized.

sUAS operations should primarily be conducted during daylight hours. sUAS operations at night are prohibited unless the applicable provisions are followed according to a valid FAA waiver specifically authorizing night time operations.

A sUAS RPIC should use caution when flying over populated areas and should never fly the sUAS directly over people unless an approved FAA waiver is granted, otherwise, the parameters identified in 14 CFR Part 107 are to be followed.

Operators must check for Temporary Flight Restrictions (TRF) prior to deployment, of any sUAS operation.

Federal Aviation Administration's website for TFR restrictions: <http://tfr.faa.gov/tfr2/list.html>

606.7.1 ACTIVITY REPORTING PROCEDURES

The Carlton County sUAS Pilots must document each use of a sUAS, record an incident case number, provide a factual basis for the use of a sUAS, and identify the applicable exception listed within the Use of sUAS section of this policy unless a warrant was obtained.

All flight activities will be documented in the aircraft logbook and within the CCSO Flight Log. Search warrant compliance flights will also be added as part of the case file and submitted to the proper courts within established timelines

Annual record of deployments and training will be provided to the Program Coordinator, Emergency Management Director, Chief Deputy, and Sheriff.

606.7.2 PROHIBITED USE

- The sUAS must comply with all Federal Aviation Administration requirements and guidelines.
- A sUAS must not be deployed with any facial recognition or other biometric-matching technology unless expressly authorized by a warrant.
- A sUAS must not be equipped with weapons.
- The sUAS must not be used to collect data on public protests or demonstrations unless expressly authorized by a warrant or an exception listed under the Use of sUAS section.

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606.7.3 DATA COLLECTION MINIMIZATION

In order to safeguard the privacy of the citizens we serve, collection of data that includes such things as, digital photographs, digital video, infrared images, and sound recordings will be limited to the extent necessary to accomplish the current mission.

606.7.4 DATA STORAGE

Data collected by a sUAS are private data on individuals or nonpublic data, subject to the following:

- The individual requests a copy of the recording, data on other individuals who do not consent to its release must be redacted from the copy.
- sUAS data may be disclosed as necessary in an emergency situation under the Use of sUAS section of this policy: concerning the aftermath of an emergency situation that involves the risk of death or bodily harm to a person.
- sUAS data may be disclosed to the government entity making a request for a sUAS, under the Use of sUAS section of this policy.
- sUAS data that are criminal investigative data are governed by section 13.82, subdivision 7.
- sUAS data that are not public data under other provisions of chapter 13 retain that classification.
- Section 13.04, subdivision 2, does not apply to data collected by a sUAS.
- Notwithstanding section 138.17 the data collected by a sUAS must be deleted as soon as possible, and in no event later than 7 days after collection unless the data is part of an active criminal investigation.

sUAS Crewmembers shall take reasonable precautions to avoid inadvertently recording or transmitting images of areas where there is a reasonable expectation of privacy. Reasonable precautions can include, for example, deactivating or turning imaging devices away from such areas or persons during sUAS operations.

Only data that meets legitimate training objectives, or has evidentiary value, will be retained after the mission has been concluded. Said data will be safeguarded so as to protect the privacy of citizens who may be depicted in the data. Once this data is collected by the sUAS, it shall be retained as provided in the established records retention schedule. The RPIC or a sUAS Crewmember designated by the RPIC, is responsible for safeguarding and deleting data as required.

606.8 REPORTING

A.) By January 15 of each year, each law enforcement agency that maintains or uses a UAV shall report to the commissioner of public safety the following information for the preceding calendar year:

- The number of times a sUAS was deployed without a search warrant issued under this policy identifying the date of deployment and the authorized use of the sUAS under the exceptions listed in the Use of sUAS section of this policy.
- The total cost of the agency's sUAS program

B.) By June 15 of each year, the commissioner of public safety shall compile the reports submitted

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to the commissioner under paragraph 9a), organize the reports by law enforcement agency, submit the compiled report to the chairs and ranking members of the senate and house of representatives committees having jurisdiction over data practices and public safety, and make the compiled report public on the departments website.

C.) By January 15 of each year, a judge who has issued or denied approval of a warrant under this section that expired during the preceding year shall report to the state court administrator:

- That a warrant was applied for.
- The type of warrant or extension was applied for.
- Whether the warrant or extension was granted as applied for, modified, or denied.
- The period of sUAS use authorized by the warrant and the number and duration of any extensions of the warrant.
- The offense specified in the warrant or application or extension of the warrant.
- The identity of the law enforcement agency making the application and the person authorizing the application.

D.) By June 15 of each year, the state court administrator shall submit to the chairs and ranking minority members of the senate and house of representatives committees or divisions having jurisdiction over data practices and public safety and post on the supreme court's website a full and complete report concerning the number of application for warrants authorizing or approving the use of sUAS or disclosure of information from the sUAS under this policy section and number of warrants and extensions granted or denied under this section during the preceding calendar year. This report must include a summary and analysis of the data required to be filed with the state court administrator under paragraph (c).

606.9 SUAS CALL-OUT PROCEDURES OCCURRING INSIDE CARLTON COUNTY

For internal requests and requests from other agencies for sUAS support that are made through the Carlton County Communications Center, the Communications Center will contact an on- duty Carlton County Supervisor to advise them of the sUAS request.

An on duty Carlton County Supervisor who receives a sUAS request directly or via Communications will then make contact with any known sUAS pilots who are working.

If there is a sUAS pilot working during the time of the request, the on duty supervisor will advise them of the request and the pilot will refer to the "Internal sUAS Request" flow sheet.

If there is not a sUAS pilot working during the time of the request, the on duty supervisor will ask the Communications Center to send an Everbridge page to the sUAS group to notify them of the request.

It is expected that any sUAS RPIC, upon acknowledging the page will then refer to the "Internal sUAS Request" flow sheet.

The assigned sUAS RPIC is responsible for conducting a mission feasibility and risk assessment. It is expected that the RPIC will utilize the "Dispatch sheet" and "Carlton County sUAS Risk Assessment Worksheet" to aid in their decision making.

Deployment of the sUAS then requires that the RPIC notify the sUAS Program Coordinator and

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the Chief Pilot of its use prior to going on the mission. Notification may include a telephone call, text message or email, but does not necessarily mean actual two way communication must take place as sending a text, email or voice mail is adequate.

If the decision has been made not to go on the mission based upon the Risk Assessment Worksheet then the RPIC must relay that information to the Carlton County on duty Supervisor and then must also contact the Program Coordinator and Chief Pilot by voice, text or an email.

606.9.1 SUAS CALL OUT PROCEDURES OCCURRING OUTSIDE OF CARLTON COUNTY

Planned or non-emergent UAS operations leaving the jurisdictional boundaries of Carlton County need the specific approval of the Emergency Management Director and/or Chief Deputy. Emergent UAS operations leaving the jurisdictional boundaries of Carlton County can be approved by the Lieutenant or a Sergeant from the Carlton County Sheriff's Office. The Chief Deputy or Sheriff must be notified of the request. If the request is approved, the CCUAS team will be contacted for the mission. After a 6-hour operational period the operation/mission will be evaluated to determine if potential billing for reimbursement is necessary. Which may include: time, lodging, and travel expenses.

606.10 GENERAL OPERATING PROCEDURES

606.10.1 MINIMUM FLIGHT CREW REQUIREMENTS

sUAS Crewmembers are responsible for safely operating the sUAS in the National Airspace System (NAS) by maintaining a Safety Risk Management (SRM) mindset and identifying any potential hazards in order to mitigate the risk associated with operating the sUAS.

To best achieve the objectives of the operational mission and to minimize the risk associated with sUAS deployments, at least two sUAS Crewmembers should be present at all sUAS deployments if using the Autel Evo II Dual 640 sUAS, one of the sUAS Crewmembers must be a current RPIC.

One sUAS crew member who is a current RPIC is sufficient to operate a Mavic Enterprise or Mavic Enterprise Dual as long as the RPIC appoints a Visual Observer to assist in the flight, by watching for other air traffic and any other hazardous objects, while keeping the sUAS in visual line of sight.

606.10.2 REMOTE PILOT IN COMMAND

A person who holds a current remote pilot certificate with a small Unmanned Aircraft Systems (sUAS) rating and meets currency and proficiency requirements. The RPIC has the final authority and responsibility for the operation and safety of a sUAS operation conducted under 14 CFR part 107 or associated waivers.

- RPICs have absolute authority to reject a flight based on weather, aircraft limitations, physical condition or other safety considerations. No member of any law enforcement agency, regardless of rank, can order a RPIC to make a flight when, in the opinion of the RPIC it cannot be done safely. In the event a requested flight is not made for any of the above reasons, then the RPIC shall notify the Program Coordinator.
- Unmanned Aircraft (UA) control, navigation and communications, in that order, are the RPIC primary objectives required to safely operate a sUAS in the NAS.

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- RPICs are responsible for ensuring compliance with the contents of this policy, Federal Aviation Regulations, Letters of Agreement, Certificates of Authorization and Waivers.
- RPICs or their designee shall handle communications with air traffic control (ATC), other aircraft and anyone else necessary, during the operation of a sUAS.
- RPICs shall utilize effective Crew Resource Management (CRM) and decision making skills during all phases of sUAS operations, being mindful of the requests of others in order to accomplish the mission objectives, but without compromising the safety of the flight.

606.10.3 CREW RESOURCE MANAGEMENT

Crew Resource Management (CRM) is the effective use of all available resources including human, hardware, software, and information resources.

- The RPIC and other assigned sUAS Crewmembers shall utilize effective Crew Resource Management (CRM) and decision making skills during all phases of sUAS operations, being mindful of the requests of others in order to accomplish the mission objectives, however, never compromising the safety of the flight.
- In the interest of safety, both the RPIC and other assigned Crewmembers must be comfortable with any decision made while working together as a crew. This process begins when deciding whether to accept a mission and continues throughout the entire mission. If the RPIC and other assigned Crewmembers are unable to continually mitigate the identified hazards associated with the flight to a level of acceptable risk that satisfies both of them, the mission should not be accepted or it should be immediately terminated. If this occurs then the RPIC shall notify the Program Coordinator.
- Federal Aviation Regulations Part 107 clearly indicates that the RPIC has the final authority and responsibility for the operation and safety of a sUAS operation. The CRM model required by this policy aims to foster a climate or culture where authority may be respectfully questioned. CRM focuses on [interpersonal communication](#), [leadership](#), and [decision making](#) during sUAS operations.

606.10.4 TRAINING

One of the many identified factors related to establishing and maintaining a safe and effective sUAS operation is maintaining a high level of aviation knowledge and sUAS operational competency to remain proficient. This process can be started by establishing a selection process that identifies minimum qualifications for sUAS Crewmembers.

606.10.5 TRAINING PLANS

The chief pilot or their designee will formulate a training plan for each sUAS unit training session. Training objectives will vary depending on whether the sUAS Crewmember is new to the sUAS program or an experienced sUAS Crewmember.

- New sUAS crewmember lessons will focus on the Role and Understanding levels of learning: ie demonstrating the ability to repeat something taught or being able to grasp the nature or meaning of something, however it may not enable the person to do something correct the first time.
- Experienced sUAS crewmember lessons will primarily focus on the application and correlation levels of learning: ie scenario based learning, such as putting something to use that has been learned and understood and is reached by practice or relating

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something taught to another procedure, concept, or maneuver.

- Training lesson plans should utilize all levels of learning to some degree and the objectives should be challenging to sUAS Crewmembers increasing their overall knowledge and operational competency and proficiency necessary to perform safe sUAS operations.

606.10.6 INITIAL TRAINING

All sUAS Crewmembers will be assigned to, or attend a training curriculum related to their sUAS position. Applicants are expected to successfully complete all associated training tasks related to such things as licensing and certification that are associated with their particular sUAS Crewmember responsibilities.

All initial RPIC applicants will receive their flight and ground training, for each make and model of sUAS to be operated, from a Factory Authorized Instructor or a Carlton County RPIC who is "current" on the particular make and model of sUAS.

Any new sUAS Crewmembers who fail to successfully complete initial training and pass their associated tests, (i.e., FAA remote Pilot operating license) are subject to removal from the sUAS unit.

606.10.7 RECURRENT TRAINING

Recurrent training for all RPIC, SO and VO positions will be conducted no less than four (4) times each calendar year. The sUAS Unit's Chief Pilot or their designee is responsible for organizing these training sessions.

- Trainings will emphasize safety, respect for the law and citizens' privacy, crew resource management, "lessons learned" in previous deployments, Safety Risk Management (SRM), ACS related material and the efficient completion of public safety missions.
- All RPIC's should complete three (3) currency events within the previous 90 days utilizing the specific make and model of sUAS. A currency event minimally should include a takeoff and landing
- RPIC's who experience a lapse in currency should perform their currency events under the supervision of a current sUAS RPIC. Lapsed currency flights may be in support of an actual public safety mission if the RPIC, based upon their prior experience, believes the flight can be accomplished safely. All flights necessary to demonstrate pilot currency will be recorded in the pilot's sUAS logbook.
- Recurrent training is not limited to actual pilot skills, but includes knowledge of all pertinent sUAS material.

Failure to demonstrate proficiency may result in removal from the sUAS Unit.

606.11 OPERATIONAL DISPATCH

Prior to beginning a sUAS flight activity, at least two sUAS Crewmembers should agree that the flight can be conducted safely. Whenever possible, one of the members should be at a location other than the flight operations location. In the event that at least two sUAS Crewmembers fail to agree, after reasonable discussion, that the flight can be conducted safely, the RPIC shall decide whether to proceed with the flight.

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606.11.1 PHYSICAL ASSESSMENT

Preflight planning begins with the RPIC, SO and VOs self-assessment of their physical condition. If a sUAS Crewmember determines that they are unable to perform their associated duties, the sUAS Crewmember will decline the mission. If this occurs, then the RPIC shall notify the Program Coordinator.

606.11.2 PREFLIGHT PLANNING

Thorough preflight planning and inspections are critical to the safe and efficient operation of sUAS in the NAS and shall be completed according to applicable manufacturer recommendations, sUAS flight manuals, FAA regulations, policy and procedures, any approved Waivers, Notices to Airmen (NOTAMS), TFRs, and current industry best practices.

The RPIC shall become familiar with all available information affecting the flight and ensure that all required and/or applicable FAA notifications have been made prior to conducting any sUAS flight operation.

606.11.3 GROUND SAFETY

The RPIC, SO and VO must be constantly aware of dangers to ground personnel from rotating propeller or rotor blades.

The RPIC will not under any circumstances leave any unauthorized person in charge of the sUAS controls while the motor is running. If it is necessary for the RPIC to leave the sUAS, the motor will be shut down and the controls will be deactivated.

Only mission essential sUAS Crewmembers will be in proximity to sUAS launch and recovery activities.

The sUAS launch and recovery areas are considered "Sterile Communication Areas."

When operating over populated areas, the RPIC will ensure, when feasible that a "defined incident perimeter" exists. The RPIC will make efforts to avoid flying directly overhead of people, unless they are inside structures or parked vehicles which will limit the potential injury in the event of sUAS failure.

606.11.4 BEFORE TAKEOFF CHECKLIST

After the RPIC has completed the associated Preflight Planning Checklist items but, before the sUAS flight, they will complete the Before Takeoff Checklist. The Before Takeoff Checklist will contain items applicable to the manufacturer recommendations, sUAS flight manuals, gimbals and sensor manuals, and current industry best practices or other.

The Before Takeoff Checklist should be conducted as "do items" and utilize a CRM challenged response.

If during the course of the preflight planning or before takeoff checklist, any mechanical discrepancy is found, refer to **MAINTENANCE** section below.

606.11.5 FLIGHT LIMITATIONS

Unless an FAA approved Certificate of Authorization or Waiver has been granted the FAR Part

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107 limitations apply.

606.11.6 GROUND HANDLING

The RPIC is responsible for operation of the sUAS in the air and on the ground. RPICs will ensure that no unauthorized items are attached to the sUAS prior to its movement. The RPIC will ensure that adequate clearance is maintained during sUAS movements.

Upon "Re-packing" of the sUAS the RPIC will ensure that all items are returned to their proper place. A Post Flight Check List shall be used to ensure accountability of each piece of equipment.

606.11.7 POST FLIGHT RESPONSIBILITIES

A thorough inspection will be conducted of the sUAS immediately after the completion of the mission to ascertain if any damage was sustained during the operation.

If necessary, the aircraft will be serviced so that it is immediately available for the next flight.

Necessary entries will be made into the aircraft flight log and appropriate reports will be completed.

Batteries will be placed on charge to ensure their operability for future flights.

Broken parts will be red tagged and the entire team will be notified if the sUAS is "out of service."

606.11.8 DOCUMENTATION

All sUAS flights will be noted in the Unmanned Aircraft (UA) logbook and documented in the Carlton County Sheriff's Office sUAS Flight Log.

606.12 MAINTENANCE

A Properly maintained sUAS is essential to safe operations. Compliance with manufacturer's scheduled maintenance, preflight inspections and immediate repair of mechanical problems ensure the availability and safety of unmanned aircraft.

606.12.1 DEFINITIONS FOR MAINTENANCE SECTION

Scheduled Maintenance (Routine)-The performance of maintenance tasks at prescribed intervals based upon the manufactures recommendations or current sUAS best industry practices.

Unscheduled Maintenance (Non-routine)-The performance of maintenance tasks when mechanical irregularities occur.

In accordance with the Federal Aviation Regulations (refer to FAR Part 43.3), pilots can perform preventative maintenance.

Software, hardware and firmware updates will be documented in the Aircraft Maintenance Logs.

All preventative, scheduled and unscheduled maintenance conducted on the sUAS will be logged into a Aircraft Maintenance Log which will be kept in the sUAS storage case.

606.12.2 MAINTENANCE OFFICER

Two sUAS Crewmembers will be designated as the Maintenance Officers. The Maintenance Officer shall coordinate software, hardware, firmware updates, and scheduled, unscheduled and preventative maintenance for the Sheriff's Office Unmanned Aircraft-(UA). This assignment will

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be in addition to other assigned duties:

- If possible, maintenance will be scheduled when it will have the least impact on operations.
- The Maintenance Officer shall maintain the Aircraft Maintenance Log.
- The Maintenance Officer, Chief Pilot and Program Coordinator shall prepare the annual budget request for maintenance related needs each year.

When parts need to be ordered, the Maintenance Officer will contact the Program Coordinator and Chief Pilot.

The RPIC maintains absolute authority in determining if the sUAS is in airworthy condition.

606.12.3 DISCREPANCY REPORTING SYSTEM

For minor problems not affecting the sUAS airworthiness, note the discrepancy in the Aircraft Maintenance Log, complete a maintenance discrepancy form and notify the Chief Pilot and Maintenance Officer.

For major problems affecting the sUAS airworthiness, note the problem in the Aircraft Maintenance Log, complete a maintenance discrepancy form and affix a "Not Airworthy" placard to the sUAS case indicating that the aircraft is not airworthy. Also notify the Program Coordinator, Chief Pilot, Maintenance Officer and text the Drone text group.