

Standard Operating Procedures Manual
City of Poquoson Fire and Rescue



**City of Poquoson
Fire and Rescue**

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GENERAL ADMINISTRATION

SOP#: S.O.1.00

Title: sUAS Operations

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Fire Chief's Signature

City Manager's Signature

sUAS Operations

I. PURPOSE

This policy is intended to provide personnel who are assigned responsibilities associated with the deployment and use of small Unmanned Aerial Systems with instructions on when and how this technology and the information it provides may be used for fire and life safety, and/or other public safety purposes in accordance with law to help facilitate increased situational awareness and incident command decisions at emergency scenes and/or disaster incidents. The agency will continuously explore better, safer, and more efficient tools to help support their missions which help ensure safer communities through prevention, preparedness, and effective emergency responses. For the purpose of this policy, the term department shall refer to Poquoson Fire/Rescue

This SOP is not all-inclusive and cannot encompass all situations that may be encountered.

II. APPLICATION

All career personnel

III. POLICY

The mission of the sUAS program is to provide aerial support and assistance to Poquoson Fire/Rescue in situations where the operating environment is hazardous or unreachable due to environmental interference.

It shall be the policy of the departments that duly trained and authorized agency personnel may deploy sUAS when such use is appropriate in the performance of their official duties, and where deployment and use, and the collection and use of any audio/video recordings or other data originating from or generated by the sUAS, comport with the policy provisions provided herein and applicable law. Once the sUAS team is activated, deployment will be mission specific, and will strictly adhere to current policies and procedures, as with any emergency response.

IV. DEFINITIONS

Certificate of Authorization or Waiver (COA): an authorization issued by the Air Traffic Organization to a public operator for a specific Unmanned Aerial activity.

Crew Resource Management (CRM): The effective use of all available resources for flight crew personnel to assure a safe and efficient operation, reducing error, avoiding stress and increasing efficiency.

Digital Multimedia Evidence (DME): Digital recording of images, sounds, and associated data.

Model Aircraft: A remote controlled aircraft used by hobbyists that is built, produced, manufactured, and operated for the purposes of sport, recreation, and/or competition.

Unmanned Aircraft (UA) or Unmanned Aerial Vehicle (UAV): An aircraft that is intended to navigate in the air without an on-board pilot. Also alternatively called Remotely Piloted Aircraft (RPA), Remotely Operated Vehicle (ROV), or Drone.

Unmanned Aircraft System (UAS): A system that includes the necessary equipment, network, and personnel to control an unmanned aircraft.

Small Unmanned Aircraft Systems (sUAS): UAS systems that utilize UAVs weighing less than 55 pounds and are consistent with Federal Aviation Administration (FAA) regulations governing model aircraft.

UAS Flight Crewmember: A pilot, visual observer, payload operator or other person assigned duties for a UAS for the purpose of flight or training exercise.

Unmanned Aircraft Pilot: A person exercising control over a UA/UAV/UAS during flight.

V. PROCEDURES

Administration:

All deployments of sUAS must be specifically authorized by supervisory personnel. The department has adopted the use of sUAS to provide an aerial visual perspective in responding to and operating at emergency and/or disaster situations, exigent circumstances, and for the following objectives:

Situational Awareness:

To assist decision makers (e.g., incident command staff; first responders; city, county, and state officials) in understanding the nature, scale, and scope of an incident—and for planning and coordinating an effective response.

Search and Rescue:

To assist missing person investigations, AMBER Alerts, Silver Alerts, and other search and rescue missions.

Tactical Deployment:

To support the tactical deployment of resources and equipment in emergency situations (e.g., significant or potentially significant fire and rescue incidents, incidents involving acts of violence, support for largescale tactical/technical operations, and other temporary perimeter security situations).

Visual Perspective:

To provide an aerial visual perspective in order to assist personnel in providing direction for traffic incident management, special circumstances, and temporary perimeter control (e.g., edges of a fire line or disaster area).

Incident Command and EOC support:

To provide aerial reconnaissance/observation, in order to support strategic and tactical decision making on emergency scenes, major incidents and/or disasters.

Scene Documentation:

To document an accident scene, or other major incident scene (e.g., structure fire, wildland fire, disaster management, incident response).

Procedures for sUAS use:

The department must obtain applicable authorizations, permits, or certificates required by the Federal Aviation Administration (FAA) prior to deploying or operating the sUAS, and these authorizations, permits, and certificates shall be maintained and current.

The sUAS will be operated only by personnel (pilots and crewmembers) who have been trained and certified in the operation of the system.

The minimum crew requirements for sUAS operations are two (2), one (1) pilot and one (1) observer.

A standard crew for sUAS operations shall consist of three (3) persons, one (1) pilot, one (1) observer and (1) scribe/liaison. The scribe's responsibilities will be flight log and radio communication and need not be a sUAS team member if sUAS team members are not available.

When staffing permits, an Air Boss will be utilized. An Air Boss will be the overall controller of air operations and serve as the liaison between the air unit and incident command.

Crewmembers will consist of sUAS team members from Poquoson Fire/Rescue but may be supplemented with team members from the York County sUAS team as necessary except for the provision above.

A supervisor will notify the 911 Center of the need for the sUAS team. A page will notify all sUAS team members of the location and nature of the nature of the call. Team members will confirm their response with the 911 Center, coordinate the gathering of the necessary sUAS equipment, and notify Poquoson Station 1 (or current location where positioned) to respond sUAS resources, to the incident location.

The sUAS-certified personnel shall inspect and test sUAS equipment prior to each deployment to verify the proper functioning of all equipment and the airworthiness of the device.

The sUAS equipment is the responsibility of individual team members and will be used with reasonable care to ensure proper functioning. Equipment malfunctions shall be brought to the attention of a team supervisor as soon as possible so that an appropriate repair can be made or a replacement unit can be procured.

The sUAS equipment and all data, images, video, and metadata captured, recorded, or otherwise produced by the equipment is the sole property of the City. Any incident scene related data, images, video, and metadata captured, recorded, or otherwise produced by the equipment is the sole property of Poquoson Fire/Rescue.

Safety of the sUAS operations (including persons and property) is the responsibility of the entire team and therefore Crew Resource Management shall be utilized for all sUAS operations. sUAS team members should bring to the attention of other members and scene supervisors any condition that they feel is a safety concern.

All sUAS team members will be familiar with the COA and Attachments, which relate to operation of the sUAS and comply with same.

Pre-flight Procedures:

A pre-flight check of the sUAS (including tuning if necessary) will be completed in accordance with the manufacturer's recommendation.

Communications:

All radio communications required by the FAA will be complied with.

Communications with sUAS team members during operations will be limited to operationally necessary communications in order to minimize disruptions to sUAS team members.

The sUAS shall be operated in accordance within manufacturer specifications and applicable FAA limitations and restrictions.

Operations:

Care shall be taken in the operation of the UAV to avoid/limit overflying persons and property to ensure privacy and avoid injury or damage whenever possible.

For all operations, the observer shall utilize a distance from the sUAS that will adequately permit them to maintain a visual observation on the sUAS and maintain personnel safety.

All sUAS team members will comply with all limitations, restrictions and requirements as enumerated in the COA.

Post Flight:

A post-flight check of the sUAS will be completed on accordance with the manufacturer's recommendation

All flights will be documented on a form or database designed for that purpose, and all flight time shall be accurately recorded. In addition, each deployment of the sUAS shall include information regarding the reason for the flight; the time, date, and location of the flight; the name of the supervisor approving the deployment and the staff assigned; and a summary of the activities covered, actions taken, and outcomes from the deployment.

RESTRICTIONS on USING the sUAS:

The sUAS shall be deployed and used only to support official fire and life safety and/or other official public safety missions, training, demonstrations or other official business.

The sUAS shall not be operated in an unsafe manner or in violation of FAA rules.

DME RETENTION and MANAGEMENT:

All DME shall be handled in accordance with existing policy on data and record retention, where applicable.

The sUAS-certified operators will record information for each flight that shall include the date, time, location, and incident numbers or other mission identifiers—and identify the sUAS personnel involved in mission.

Personnel shall not edit, alter, erase, duplicate, copy, share, or otherwise distribute in any manner sUAS DME without authorization and approval of the Fire Chief, or his or her designee.

All access to sUAS DME must be specifically authorized by the Fire Chief or his or her designee, and all access shall be audited to ensure that only authorized users are accessing the data for legitimate and authorized purposes.

Files should be securely stored in accordance with approved policies and state records retention laws and retained no longer than necessary for purposes of training, emergency scene documentation, damage assessment reporting, or other approved need.

sUAS SUPERVISION and REPORTING:

sUAS personnel shall manage all deployments and uses of sUAS to ensure that personnel equipped with sUAS devices utilize them in accordance with policy and procedures defined herein.

An authorized sUAS administrator will audit flight documentation at regular intervals. The results of the audit will be documented. Any changes to the flight time counter will be documented.

TRAINING:

Personnel who are assigned sUAS must complete an approved training program as designated by the department to ensure proper use and operations, as well as to meet the minimum requirements of the COAs that are in place for the City. Within six months of being accepted to the team, personnel must be certified as an FAA Part 107 Remote Pilot. Additional training may be required at periodic intervals to ensure the continued effective use, operation, proper calibration, and performance of the equipment and to incorporate changes, updates, or other revisions in policy and equipment.

All personnel with sUAS responsibilities, including command officers, shall also be trained in the local and federal laws and regulations, as well as policies and procedures governing the deployment and use of sUAS.

MAINTENANCE:

All repairs shall be made after consulting (as appropriate) with qualified manufacturer repair technicians. Should a repair be needed that is beyond the capabilities of sUAS team members, the aircraft shall be sent to a qualified repair center for repairs.

BATTERIES:

sUAS batteries will be maintained in a sufficient charged state to ensure immediate operability upon deployment. Batteries will be labeled and replaced as necessary.

SERVICING:

Aircraft Technicians will ensure that a spare tool kit and parts are available for deployment to allow sUAS operators to remedy minor issues in the field (e.g. tightening loose screws, replacing antennas, changing pod straps, etc.). Employees, technicians and authorized subcontractors of the manufacturer, that they permit to service the sUAS, shall also be allowed to maintain service and repair the sUASs as necessary while acting as agents for the manufacturer.

DAMAGE:

Any damage to the sUAS or its support equipment shall be immediately reported to a sUAS supervisor. Any damage to the sUAS or its equipment that is determined to render the system un-airworthy shall be labeled so as to be visually observable. A sUAS supervisor will be contacted and advised.

TRAINING/PROFICIENCY:Initial Training:

Initial sUAS training will be accomplished by attending an authorized training course that meets the COA requirement of: 16 hours of classroom instruction on aeronautical knowledge as stated in 14 CFR 61.105 as they pertain to sUAS operations in the NAS.

Recurrent Training:

Operations permitting, sUAS training will be conducted on a regular basis by all certified personnel. The training will consist at a minimum of 1 takeoff and landing event in order to meet the proficiency and currency requirements, weather permitting. sUAS certified personnel not able to attend training will attempt to make up the session at the earliest possible opportunity. The intent is to have AU pilots maintain currency and be prepared for missions.

Proficiency:

All sUAS pilots will maintain currency in the sUAS in order to be readily available for assignment as a sUAS team member. Currency for sUAS operations will consist of three (3) take-off and landing events within the last 90 days prior to act as PIC. If a sUAS pilot is not current, they must notify their immediate supervisor and will not be eligible to operate the sUAS as PIC (except for training purposes) until they regain currency.

Training Site(s):

sUAS training will only take place at a site designated and approved by the FAA for such purpose.

Training Notifications:

In compliance with FAA COAs which have been issued to the City of Poquoson, notifications will be made to the appropriate FAA facilities prior to sUAS operations as required. Additionally, notifications deemed appropriate for airspace safety purposes will also be made (e.g. Yorktown Naval Weapons Station, USCG TRACEN, Camp Perry, Cheatham Annex, Fort Eustis, Langley Air Force Base, airports in the area and other users of the airspace).

STORAGE/TRANSPORTATION:

Storage:

The sUAS and support equipment will be securely stored at a Poquoson Fire/Rescue facility in the designated container for timely portability and deployment.

Transportation:

Prior to transporting the sUAS for deployment, the Team Member responsible for transport will ensure that all necessary gear is loaded by comparing the gear with the sUAS Equipment Checklist and insure that all aircraft and equipment is securely stored for transportation.