

YORK COUNTY EMERGENCY MANAGEMENT AGENCY

Small Unmanned Aerial Systems (sUAS)

OPERATING POLICY

REVISED May 2017

REVISED April 2022

REVISED January 2023

REVISED April 2023



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1. Preamble:

Operations of sUAS are Mission Based and not specifically aircraft based. Small Unmanned Aerial Systems and Small Unmanned Aerial Vehicles are interchangeably in this document. This policy is to be reviewed and revised as needed annually to ensure that all operations and missions have been executed in a manner that meets all internal guidelines and procedures as well as any Federal, State or local laws and guidelines. The policy will be amended to include any changes made to the UAS Team administration, operational procedures or updates/changes made to any Federal, State or local laws. An After Action Report (AAR) will be done after each mission to document all pertinent details. The AAR's are then reviewed by the EMA Director and the UAS Team administration and personnel to ensure that each deployment has been conducted properly and in compliance with all governing agencies and laws.

2. Objective:

To utilize small unmanned aerial systems (UAS) in support of an emergency incident on behalf of the York County Emergency Management Agency (YCEMA) in support of another local or state agency to provide video, still photography, audio, or some other legal and authorized capability. The UAS is to be flown in accordance with state and federal laws including but not limited to the Federal Aviation Administration (FAA) with safety a priority to protect responders, victims, and the aircraft itself. YCEMA is responsible as the registered owner to ensure the UAS is airworthy and that it is operated and maintained in strict compliance with the manufacturer's operational and maintenance recommendations. These responsibilities as well as all FAA regulations extend to the Pilot in Command (PIC).

3. UAS Standard Operating Procedure:

Initially approved by York County Commissioners on November 4, 2015

A. Unmanned Aerial System (UAS) Capabilities:

- a. Live video recording & streaming
- b. Still photography
- c. Thermal Imagery
- d. Communication



B. Area of Operations

a. The primary Area of Operations will be within the boundaries of York County within the state of Maine. Twenty-nine towns within York County, bordered by the State of New Hampshire to the west, Cumberland County to the north, and the Atlantic Ocean to the east. Within the Area of Operations, the airspace is classified primarily "E" & "G" with no Class "B", limited exposure to one Class "C" and one Class "D" airport. (Map of the primary area of operations below.)



- b. The Secondary area of operations would include the remainder of the state of Maine as is feasible pursuant to the requesting public safety agency. Airspace considerations in other counties include two airports with Class "C" airspace.
- c. The third area of operations encompasses all out of state areas under EMAC as is feasible pursuant to the requesting public safety agency. Airspace considerations outside of jurisdiction are evaluated prior to deployment of the team to determine if a UAS can be operated. Out-of-



state requests must be received via EMAC channels and all information obtained will be handled according to this agency's policy.

C. UAS Mission Intent

Small Unmanned Aerial Vehicles (UAS) shall be used only for the following purposes:

- a. Search and rescue
- b. Mass casualty search (train derailment, plane crash, terrorism)
- c. Fires (locating hotspots, forest fires, urban firefighting)
- d. Damage assessments (property, environmental and post-storm)
- e. Law enforcement tactical operations & criminal investigations
- f. General scene assessment & public safety of mass gatherings
- g. Bridge and Dam inspection (flooding, ice jams)
- h. HazMat incidents
- i. Environmental assessments from significant weather events
- j. Flight indoors to minimize risks to first responders.
- k. Any time a danger to a first responder can be minimized by a UAV
- 1. Monitor and assess critical infrastructure and emergency incident situational awareness
- m. Non-emergency services such as on-going pilot training and exercises, damage assessments, environmental surveillance of chemical spills and areas of contamination and post-structure fire analysis to determine origin.

D. Mission vetting

- a. A request for use of the Department's UAS must specify the purpose of the deployment and be consistent with the Department's overall mission.
- b. The requesting agency official must have authorization from their agency to request mutual aid.
- c. All missions must be approved by the York County EMA Director or their designee in conjunction with the requesting official- e.g., Senior Warden of Maine Department of Inland Fisheries and Wildlife or local chief law enforcement official.

E. Unauthorized Uses



- a. Invasion of privacy (eavesdropping)
- b. Monitoring or video recording of public unless legally authorized.
- c. Personal use or in conflict with private sector (i.e.; hobbyist, fun, and recreation)
- d. Infringement of Civil Rights and Liberties as described below:

Respect for civil rights and civil liberties is a core tenet of our democracy. In executing the Department's law enforcement and national security mission, personnel must rigorously support and defend the U.S. Constitution and continue to uphold the laws, regulations, and policies that govern our activities and operations.

As with all investigative methods, UAS operations must be consistent with the U.S. Constitution. The Fourth Amendment protects individuals from unreasonable searches and seizures and generally requires law enforcement to seek a warrant in circumstances in which a person has a reasonable expectation of privacy. Moreover, Department personnel are prohibited from using UAS for the collection, use, retention, or dissemination of data in any manner that would violate the First Amendment, or the lawful exercise of other rights secured by the U.S. Constitution and laws of the United States.

Department personnel are prohibited from using UAS in any manner that would discriminate against persons based upon their ethnicity, race, gender, national origin, religion, sexual orientation, or gender identity, in violation of law. Department personnel must be trained to understand and abide by all relevant federal legal standards applicable to the use of UAS, and to seek advice from legal counsel as necessary.

In addition, UAS is only used in connection with properly authorized investigations and activities. Statutory authorities, the Attorney General's Guidelines, and other relevant agency policies and guidance define the scope of authorized investigations and activities and context of these existing safeguards.

Further, even within the context of properly authorized activities, personnel often must choose among different investigative methods that are operationally sound, reasonable, and effective, but may be more or less intrusive relative to individuals' privacy and civil liberties. Prior to using UAS, Department personnel must assess the relative intrusiveness of the proposed use of UAS, and balance it against the investigative need. This is both a logical process and an exercise in judgment, but the overall principle remains; in deciding whether to use UAS, Department personnel must consider and, if reasonable based on the facts and circumstances of the investigation, use the least intrusive means to accomplish an operational need.

Accordingly, YCEMA personnel shall, prior to deployment of new sUAS technology and at least every three years, examine the existing policy and procedures relating to the collection, use,



retention, and dissemination of information obtained by sUAS, to ensure that privacy, civil rights, and civil liberties are protected.

- i. Any information collected by sUAS is only used to the extent in which is consistent with and relevant to an authorized purpose.
- ii. Retention of Information collected using a sUAS that may contain personally identifiable information (PII) shall not be retained for more than 180 days unless retention of the information is determined to be necessary to an authorized mission of the retaining agency, is maintained in a system of records covered by the Privacy Act or is required to be retained for a longer period by any other applicable law or regulation.
- iii. All missions will comply with the Privacy Act of 1974 (5 U.S.C. 552a) in applicable circumstances.
- iv. All flights will be tracked and recorded by DroneSense on a secure system as required by the Privacy Act. DronseSense is an American owned company who supports Federal, State and local public safety agencies. All data is archived and access is limited to authorized internal personnel only. All data entries are permanent and cannot be modified post flight. Only limited authorized personnel have access to the DroneSense platform and all recorded data. Authorized personnel are all vetted and must hold proper credentials. This pertains to all data covered under the UAS capabilities.
- v. The telemetry data collected by each sUAS is recorded within the sUAS and synched to the DroneSense platform for storage on encrypted and secure servers. Video when recorded is saved to a micro SD card which is then copied to a secure local hard drive and the SD card is subsequently erased. Access to the local hard drive is limited to authorized personnel only.
- vi. As required by law, data stored on DroneSense will be purged or deleted as soon as feasible per investigation or mission requirements.
- vii. Data obtained by sUAS is only disseminated as required by the mission to internal staff and the requesting agency(s). Data that is not maintained in a system of records covered by the Privacy Act shall not be disseminated outside of the agency unless dissemination is required by law or fulfills an authorized purpose and complies with agency requirements.
- viii. UAS recorded data will not be collected, disseminated or retained solely for the purpose of monitoring activities protected by the U.S. Constitution, such as the First Amendment's protections of religion, speech, press, assembly, and redress of grievances (e.g., protests, demonstrations).
- ix. Collection, use, dissemination, or retention of UAS recorded data should not be based solely on individual characteristics (e.g., race, ethnicity, national origin,



sexual orientation, gender identity, religion, age or gender), which is a violation of the law.

F. Compliance with Maine Law: Title 25; Part 12; Ch 551; REGULATION OF UNMANNED AERIAL VEHICLES

- a. With respect to § 4501; part 5, the York County EMA has adopted written minimum standards and policies and protocols for use of UAVs on behalf of law enforcement agencies including the following:
 - i. All persons operating unmanned aerial vehicles will be certified by the FAA and trained for the intended type of flight.
 - ii. Prior authorization from the chief administrative officer of the law enforcement agency seeking the use of York County EMA unmanned aerial vehicle is required.
 - iii. Approval by the Attorney General or chief prosecuting attorney for the appropriate jurisdiction (signed warrant or valid consent) must be obtained for the deployment of an unmanned aerial vehicle for criminal investigative purposes.
 - iv. Use of visual, thermal, and zoomed imagery are permitted. No facial recognition is permitted, and NO UAV will be equipped with any type of weapon.
 - v. Flight pre-planning, incident briefings, flights above 200' above ground level at a speed of 5 mph or more will be used to minimize and avoid the inadvertent visual recording of 3rd parties or private spaces not under investigation.
 - vi. Any unnecessary video recordings which are unrelated to the investigation will be erased.
 - vii. The number of UAV's deployed to a single incident or investigation will be managed by the UAV Operations Director.
 - viii. Operators of a UAV will take all precautions available to avoid hazards to persons or property with appropriate take off and recovery sites as well as no flight over people.
 - ix. Annual Unmanned Aerial Vehicle Report will be submitted to the Maine Commissioner of Public Safety on behalf of law enforcement agencies supported by the York County EMA prior to 1 July. [25 M.R.S.A. § 4501(6)]
 - x. A York County EMA operator of a UAV who intentionally uses the UAV without proper authorization or in deviation of the standards set forth in this policy shall be subject to disciplinary action.



xi. To ensure compliance with State and local laws as well as the Operating Policy, the UAS Operations Chief prepares an After Action Report (AAR) following each operation or mission. The AAR's are then thoroughly reviewed at the monthly team meetings or at a training exercise to verify that the operation or mission was properly executed.

G. Transparency of Operations and Use

Transparency of Operations and Use

- a. Our agency is committed to transparency in operations. Our public website describes each of our special response teams and their scope of response, including the UAS team, in our Special Teams and Capabilities Section. This will serve as a public notice of operations.
- b. This policy, which outlines all procedures the UAS team will follow, will be published on the York County Government website under the Emergency Management Section. This will serve as a public notice of policies and procedures.
- c. Due to the nature of some missions not all upcoming operations are scheduled, and some missions will require no public notification, due to sensitivity or scene safety (i.e., criminal investigations, crime scenes, etc.). For scheduled missions that are not sensitive in nature, a notice will be posted to the public website advising of the upcoming operation. The agency requesting UAS resources may also provide public notification of scheduled operations before, during, or after a mission is complete.
- d. For specific public safety operations, a UAS NOTAM (Notice to Air Mission) is filed with the FAA depicting the radius of the area, altitudes to be flown and date/time of the operation within the airspace. This is available to the public as well as pilots and users of the airspace.
- e. A year-end summary of operations will be prepared annually utilizing the data stored in the DroneSense platform and then posted to the public website. This report will indicate the total number and type of missions completed as well as training and non-emergency uses over the past year.

H. Deployment

- a. At a minimum, each deployment shall meet the following minimum requirements:
 - i. Training and certification requirements provided by State and Federal law.
 - ii. Procedures in place to minimize inadvertent audio or visual recording of private spaces or individuals.
 - iii. Procedure in place for destroying any unnecessary audio or visual recording without further duplication or dissemination.



- iv. The pilot(s) will follow recommended minimum altitude and speeds at which the UAS may fly to minimize invasion of privacy.
- v. Procedure in place to avoid hazards to persons or property on land and in the air.
- vi. Use methods of tracking and recording the flight of each UAS mission.
- vii. Compliance with rules and regulations promulgated by the FAA.
- viii. Obtain a Public Safety Certificate of Waiver or Authorization that permits operation of the UAS in the area of deployment for the intended purpose.

The procedures referenced above shall be developed and implemented prior to deployment of UAS on any approved mission.

- b. Once a UAS mission has approval the following procedure will be adhered to for each deployment:
 - i. IMAT will activate as necessary.
 - ii. The YCEMA command van is deployed for every UAS mission.
 - iii. Initiate Incident and or Unified Command.
- c. Recommended designated personnel depending on incident:
 - i. Incident Commander (IC)
 - ii. Pilot in Command (PIC)
 - iii. Liaison Officer (LO)
 - iv. Visual Observer (VO)
 - v. Communication Specialist (CS)

I. Operations

- a. Only qualified and certified pilots will launch and fly the UAS (higher restriction than required by the FAA). Aircrews will employ Crew Resource Management (CRM) to optimize effectiveness and safety.
- b. IMAT Incident Commander will ensure all other organizations are aware of the air operations underway and that coordination is established with supported elements and other supporting units.
- c. Air Operations Branch
 - i. De-conflict manned from unmanned aircraft.
 - ii. Establish areas of operation and assignments for each sUAS
 - iii. Safety is the responsibility of everyone on the team.
- d. Logistics



- i. Ensures that proper resources support all air operations.
- ii. Ensure additional batteries are prepared and charged.
- iii. Maintains connectivity with cellular devices.
- e. Aircraft



DJI Mavic Pro 1



DJI Mavic 2 Enterprise Dual & Mavic 2 Enterprise Advanced



DJI Mavic Mini-2

J. Communications and Coordination (as approved by YC Commissioners, 11/4/15)

- a. Interoperable communications (radio, phone, satellite up-link, Internet, etc.) established with supported elements and adjacent organizations.
- b. ICS forms will be kept to document and report any and all UAS missions.
- c. All video recordings will be archived and maintained for evaluating value against cost of the UAS after the video is evaluated for unnecessary recordings which may constitute an invasion of privacy or other content outside the scope of the mission.

K. Maintenance Requirements

a. Aircraft are to be inspected and maintained in accordance with manufacturer recommendations.



- b. Batteries, weekly charge for all UAS kits
- c. Inspection of UAS Kits for completeness
- d. Replacement of propellers that have damage.
- e. Placing unsafe batteries out of service when necessary

L. Training

- a. The UAV Team Chief will ensure all training missions will be conducted over non-residential areas.
- b. All UAV air operations missions will be in complete compliance with FAA regulations (Title 14 CFR, Section 21.191 and Section 333 of PL 112.95) and Maine law (LD-25).
- c. Pilots will receive opportunities to train at least monthly to develop proficiency under different circumstances.
- d. Pilot skills, qualifications, and flight hours will be recorded and maintained on file.

M. Reporting Requirements

- a. Post incident an After-Action Report (AAR) is to be submitted to the director of York County Emergency Management Agency for each operation or mission.
- b. Documentation of all UAS activities associated with mission operations is required regardless of the airspace in which the UAS operates except those designated as for "training". NOTE:

 Negative (zero flights) reports are required in accordance with the COA (see addendum)
- c. Electronic recording of flight data will be captured and made available as required.
- d. Reports to the FAA will be submitted in accordance with the COA monthly to include UAS flight time, location, damage, incidents, and malfunctions.
- e. After an incident or accident that meets the criteria of 14 CFR Part 107, and within the prescribed timeframe shall be reported in accordance with the UAS COA below:

FAA FORM 7711-1 UAS COA Attachment

BLANKET AREA PUBLIC SAFETY AGENCY COA 2022 - ESA - 10767 - COA 11 JUNE 2020 - 10 JUNE 2024

 All accidents/mishaps involving UAS operations where any of the following occurs:



- Fatal injury, where the operation of a UAS results in a death occurring within 30 days of the accident/mishap.
- ii. Serious injury, where the operation of a UAS results in:
 - Hospitalization for more than 48 hours, commencing within 7 days from the date of the injury occurred.
 - A fracture of any bone (except simple fractures of fingers, toes, or nose)
 - Severe hemorrhages, nerve, muscle, or tendon damage
 - Involving any internal organ
 - Involves second- or third-degree burns, or any burns affecting more than
 5 percent of the body surface.
- iii. Total unmanned aircraft loss
- iv. Substantial damage to the unmanned aircraft system where there is damage to the airframe, power plant, or onboard systems that must be repaired prior to further flight.
- v. Damage to property, other than the unmanned aircraft
- vi. Any incident/mishap that results in an unsafe/abnormal operation including but not limited to:
 - A malfunction or failure of the unmanned aircraft's on-board flight control system (including navigation)
 - A malfunction or failure of ground control station flight control hardware or software (other than loss of control link)
 - A power plant failure or malfunction
 - An in-flight fire
 - An aircraft collision involving another aircraft
 - Any in-flight failure of the unmanned aircraft's electrical system requiring use of alternate or emergency power to complete the flight
 - A deviation from any provision contained in the COA
 - A deviation from an ATC clearance and/or Letter(s) of Agreement/Procedures
 - A lost control link event resulting in:
 - Fly-away
 - Execution of a pre-planned/unplanned lost link procedure.
- vii. Initial reports must contain the information identified in the COA On-Line Accident/Incident Report.



- viii. Follow-up reports describing the accident/incident/mishap(s) must be submitted by providing copies of proponent aviation accident/incident reports upon completion of safety investigations.
- ix. Civil operators and Public-use agencies (other than those which are part of the Department of Defense) are advised that the above procedures are not a substitute for separate accident/incident reporting required by the National Transportation Safety Board under 49 CFR Part 830 §830.5.
- x. For other than Department of Defense operations, this COA is issued with the provision that the FAA be permitted involvement in the proponent's incident/accident/mishap investigation as prescribed by FAA Order 8020.11, Aircraft Accident and Incident Notification, Investigation, and Reporting.

N. Pre-Flight Unpacking, Set-up, and power up checklist

1	Open pelican case and verify all components are present.
2	Remove UAS and deploy each motor arm.
3.	Inspect condition of each propeller blade for nicks and damage
4	Remove safety cover over gimbal assembly.
5	Insert fully charged battery in drone.
6	Confirm UAS has micro-SD Card installed.
7	Remove controller from pelican case and verify battery level.
	i. Install battery to Crystal Sky on back and connect to pilot controller with bayonet
	mount.
	ii. Using the Smart Controller simply power up and extend antenna to 90° angle.
8	Power up MiFi hotspot and connect pilot controller through "Settings."
9	Power up UAS positioned in a safe take off location and connect to pilot controller.
10	Select DroneSense mobile app from main screen and select appropriate mission to join.
11.	Confirm video is transmitting to pilot controller and map location is correct.
12.	After confirming any calibration or UAS alerts have are resolved, launch as required.
13	When mission complete replace each component in their respective location in the pelican case.
14	Remove micro-SD Card for downloading and data archive.

O. Mission Planning Worksheet

1. Authorization from YCEMA Director



2.	Identify and document expected results (i.e., video)	
3.	Analyze area of operation using all available resources to identify safety, airspace, liability,	
<u> </u>	and visibility concerns.	
4.	Select best location for point of departure (POD) where pilot will have unobstructed line of	
5	sight PIC to brief YCEMA Director on any anomalies or safety concerns prior to flight.	
٦.	FIG to brief received bir ector of any anomalies of safety concerns prior to hight.	
Mission Planning & Execution:		
1.	Conduct Risk Assessment of the mission and make go/no go decision.	
2.	Review airspace requirements and verify no temporary flight restrictions.	
3.	Notify any airport authorities or control tower if operating within 5NM	
4.	Perform pre-flight checklist.	
5.	Remain at or below 400AGL	
6.	Brief support team and other participants or agencies as necessary	
7.	Prosecute objective and avoid distractions and interruptions.	
8.	Monitor changing conditions, incident, weather, and available resources.	
9.	Seek feedback from mission specialists and adapt as required to achieve objectives	
Missio	on Completion:	
1.	Safely return aircraft to departure point.	
2.	Conduct post flight inspection of aircraft	
	Secure UAS for next mission	
	Sign and document flight log	
	— Hot-Wash support team as necessary and note lessons learned.	
0.	Debrief Incident commander as requested and provide After Action Report to EMA Director.	
	Bill Color.	
Viissio	n Contingencies:	
1.	Lost-link procedure for command and control (C2) are dependent on the Manufacturer's	
	built in auto return feature which will direct the UAS to automatically land at its (POD).	
2.	Lost comm procedure includes the communication of the Pilot-in-Command (PIC) and Air	
	Traffic Control (ATC) or between the PIC and Visual Observer(s) (VO). In any instance when	
	comms is unreliable or inoperable the PIC shall initiate procedures to abort the mission and	
	return the UAS to its (POD) until such time as radio or telephone communication can be re- established.	
3.	At any time, safety is compromised for the aircraft or personnel any participant can call	
	TO SERVICE AND ADDRESS OF THE PROPERTY OF THE	



"Knock it Off" which is to be strictly observed by the PIC with the return to POD for any safety concerns.
Select alternative landing zone (LZ) in the event of damage to aircraft or another incident.
Post support team in surrounding locations to view UAS and retrieve if required.

4. Addendum

FAA FORM 7711-1 UAS COA

Blanket Area Public Safety Agency COA

2022-ESA-10767-COA

Executive Summary:

This certificate is issued for the operations specifically described hereinafter. No person shall conduct any operation pursuant to the authority of this certificate except in accordance with the standard and special provisions contained in this certificate, and such other requirements of the Federal Aviation Regulations not specifically waived by this certificate.

OPERATIONS AUTHORIZED

Operation of small Unmanned Aircraft System(s) weighing less than 55 Lbs. only in Class G airspace at or below 400 feet Above Ground Level (AGL) under the provisions of this authorization. See Special Provisions.

Note-This certificate constitutes a waiver of those Federal rules or regulations specifically referred to above. It does not constitute a waiver of any State law or local ordinance.

SPECIAL PROVISIONS

Special Provisions are set forth and attached.

This certificate, 2022-ESA-10767-COA, is effective from 11 June 2022 through 10 June 2024 and is subject to cancellation at any time upon notice by the Administrator or his/her authorized representative. Should a renewal become necessary, the proponent shall advise the Federal Aviation Administration (FAA), in writing, no later than 45 business days prior to the requested effective date.

P. Process for Complaints/Civil Liberties Complaints



Anyone wishing to file a complaint or a civil liberties complaint may do so by contacting the York County Manager and providing the following information:

- 1. Complainant Name
- 2. Full mailing address
- 3. E-mail address
- 4. Telephone number
- 5. Nature of complaint
- 6. Date and location for which complaint is founded
- 7. Allegation of activity affecting Civil Liberties
- 8. Signature of complainant

The County Manager will acknowledge receipt of the complaint and initiate an internal investigation in a timely manner.