
Standard Operating Policy (SOP)

(Your Agency Name)

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I. (Your Agency Name) POLICY STATEMENT

The deployment of small Unmanned Aircraft Systems (sUAS) (“drones”) by the (Your Agency Name) (hereafter known as (YOUR AGENCY NAME)) is expected to assist the (YOUR AGENCY NAME) as a force multiplier, providing increased situational awareness, improved event assessment, improve rescue decision making, and enhanced rescuer and public safety. Deployments of this technology will be in direct support of emergency events, water rescue, sear and rescue (SAR), disaster response and any other mission requiring aerial surveillance within a Defined Incident Perimeter (DIP). Deployment may also support mutual aid operation that involve crime scene and vehicular accident forensics collection, tactical operations, responder training, firefighting support activities, and other activities in support of emergency operations.

This policy establishes sUAS program management, operational requirements, reporting and records management, and safety considerations necessary to support first responders conducting missions as permitted by the Federal Aviation Administration (FAA) issued Certificate of Waiver or Authorization (COA) and/or civil/commercial operations under 14 CFR part 107. sUAS program guidance is designed to minimize risk to people, property and other aircraft while continuing to safeguard the right to privacy by all persons. Further, this policy is designed to comply with all applicable federal, state and local statutes.

The (YOUR AGENCY NAME) sUAS shall only be deployed in connection with properly authorized investigations and emergency response activities, and shall only be deployed within the context of existing and applicable federal, state and local laws/regulations and (YOUR AGENCY NAME) safeguards.

The use of sUAS by the (YOUR AGENCY NAME) is expected to enhance reesponder situational awareness and improve response activities. sUAS operations may be integrated with manned aircraft operations if it provides a most effective response to specific situations.

II. DEFINITIONS

1. **Airworthiness:** The condition in which the small Unmanned Aircraft System (sUAS) (this includes the aircraft, engine, propellers, accessories, firmware, software and control station components) conform to its manufactured design and is determined to be safe for all aspects of operation.
2. **Avionics:** The complete electronics systems of the Aircraft and control station, including software for command and control of the small Unmanned Aircraft (sUAS) (i.e., Global Positioning System (GPS), battery(s) to power sUAS motors and electronic systems, radio elements with antennas, etc.).
3. **Beyond Visual Line-of-Sight, BVLOS:** Operation of the sUAS beyond the ability of the Pilot-in-Command (RPIC) or Visual Observer(s) (VOs) responsible for controlling the trajectory of the sUAS, to maintain direct visual contact with the sUAS unaided other than by corrective lenses (spectacles or contact lenses), sunglasses or both.
4. **Certificate of Waiver or Authorization (COA):** Certificate of Waiver or Authorization issued by the Federal Aviation Administration that permits public agencies and organizations to operate a particular aircraft for a particular purpose in a particular area or waives specific requirements for operations.
5. **14 CFR Part 107:** The Small UAS rule to allow for routine civil operation, to include public safety, of sUAS in the National Airspace System (NAS), and provides safety rules for those operations. The rule defines sUAS as unmanned aircraft weighing less than 55 pounds.
6. **Concept of Operations (CONOPS):** A (YOUR AGENCY NAME) document that describes systems characteristics, limitations and procedures within your organization, and is used to communicate specific mission(s), operational procedures, and operational objectives and controls for deployment of a proposed sUAS.
7. **Defined Mission Perimeter (DMP):** The location in which sUAS operations will be constrained during a specific mission.
8. **Extended Visual Line-of-Sight (EVLOS):** The operation of a sUAS when the Remote Pilot-in-Command (RPIC) or any Visual Observer (VO) cannot maintain visual contact with the sUAS for see and avoid practices, but where the location of the sUAS is known through technological means; however, the individual responsible for see and avoid shall be able to see other aircraft, terrain, or obstacles, or combinations thereof so that the sUAS can be maneuvered clear of a collision. Either the RPIC or, alternatively, the VO can determine the location of the sUAS relative to intruding aircraft, obstacles, structures or terrain and determine that the sUAS does not endanger the life or property of another.
9. **Fly-Away:** Sudden unexpected, unplanned, unintended sUAS flight outside of the operational boundaries (Defined Incident Perimeter) in (altitude/airspeed/lateral limits) as the result of a failure of the navigation control element or onboard systems or both.
10. **Ground Control Station (GCS):** The interface between the Remote Pilot-in-Command (RPIC) and the sUAS This may be a handheld control box or a laptop computer or other device, together with all associated hardware, power, antennas, cabling, etc.

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11. **Hazard:** A discovered or foreseeable potentially unsafe condition resulting from failures, malfunctions, external events, errors, conditions or combinations thereof that are considered to have a dangerous impact on the safe operation of the sUAS
 12. **Maximum Operating Height (MOH):** The height of the mission will be in accordance with the altitude limit of the COA or as regulated by 14 CFR Part 107, depending on what authority the operation is being flown.
 13. **Nonparticipant:** Any individual in the vicinity of sUAS operations who is not participating or directly supporting the specific sUAS mission. (Note: a person who is the subject of the UAS mission is not considered to be a nonparticipant).
 14. **Operational Risk Assessment (ORA) as it relates to sUAS operations:** An evaluation of the operational area, the sUAS and its operation during the intended mission to determine potential risks to persons and property and identify reasonable mitigation strategies to reduce those risks through training, operating procedures or limitations.
 15. **Operational Risk Management (ORM):** The continual process of evaluation of the effectiveness of program controls, which includes risk assessment, risk decision making and implementation of risk controls to ensure operations satisfy an acceptable level of risk for (YOUR AGENCY NAME).
 16. **Payload:** Any sensors or equipment attached to or carried by the sUAS for the purpose of collecting data, or otherwise essential to the mission.
 17. **Post-flight Inspection:** Conducted by the RPIC to ensure that the sUAS has not suffered any damage or mechanical issues after the mission is completed. NOTE: All preflight and post-flight forms should be filled out and signed by the RPIC and submitted to the team leader for recordkeeping.
 18. **Preflight Briefing:** A discussion conducted by the RPIC prior to aircraft launch with all associated participants, which should include, but not be limited to, the following:
 - Review of the mission, mission area (Defined Incident Perimeter), mission objectives and any issues of concern.
 - Review of current and forecasted weather conditions and weather limitations.
 - Review of operating limitations and safety issues such as battery charge, GPS strength and potential for radio interference.
 - Review of crew coordination and communications procedures, (flight crew and on scene commander).
 - Review of emergency/contingency procedures including aircraft system failure, flight termination, divert and lost link procedures.
 - Review of images collection and documentation as determined by the mission.
 - Execution of all checklists.
 19. **Preflight Inspection:** Conducted by the RPIC to ensure the sUAS is operational and ready for flight. Also ensures that the control unit is operating properly and charged.
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20. **Reasonable Expectation of Privacy:** An element of privacy law that determines in which places and in which activities a person has a legal right to privacy. Reasonable expectation refers to a person’s belief that they are in a place where their activities are protected from being discovered or known, such as in their domicile.
 21. **Remote Pilot-in-Command (RPIC):** The person who is qualified and designated by (YOUR AGENCY NAME) who is directly responsible for and is the final authority as to the operation of the sUAS (as described by Federal Aviation Regulations (14 CFR ~Part 91.3); and holds the appropriate FAA sUAS airman certificate (if applicable) for the conduct of the flight.
 22. **Risk:** The composite of predicted likelihood and severity of the potential effect of a hazard.
 23. **Safety Officer:** The Safety Officer is responsible for assisting the RPIC with safety-related issues and providing support to the RPIC during sUAS operations. The Safety Officer will act as the liaison officer for coordination with the incident commander, on scene commander or special response personnel on behalf of the RPIC. An Observer can fulfill the responsibilities of the Safety Officer.
 24. **“Shall” versus “Should” versus “May”:** Within this program guidance, the use of the word **“SHALL”** describes a practice or procedure or statement that is **MANDATORY** and must be complied with. “Shall” statements are requirements that will include sufficient detail needed to define compliance. **“SHOULD”** implies a recommended practice or procedure to comply with as guidance toward the overall goal of improving safety. **“MAY”** implies an optional procedure or practice where compliance is at the discretion of the individual and are provided to clarify acceptability of a specific item or practice and offer options for satisfying requirements.
 25. **Small Unmanned Aircraft System (sUAS):** A small, unmanned aircraft with a maximum takeoff weight (aircraft and payload) less than 55 lb. (25 kg) and all of its associated elements, accessories, etc. (i.e., telemetry links, payload elements and control interfaces (Ground Control Station, antennas, avionics equipment, etc.)) that are required for the safe and efficient operation of the sUAS in the national airspace system.
 26. **sUAS Flight Crewmember:** A remote pilot, visual observer, payload operator and/or any other designated person assigned duties for sUAS operations.
 27. **sUAS Flight Emergency:** An event or emerging circumstance in which the safety of the aircraft or of persons or property on the ground is endangered for any reason. Typically, this situation is one in which it is no longer possible to continue the flight using normal procedures. Emergency situations involving sUAs may develop as a result of one or more factors within or outside the sUA, for example:
 - [Fire](#) on board the aircraft.
 - Aircraft component failure or malfunction (e.g., engine failure, navigation or flight guidance system malfunction).
 - Shortage of battery power or fuel.
 - Remote Pilot and Visual Observer have lost visual contact with the sUA.
 - Worsening [weather](#).
 - Pilot [incapacitation](#) (e.g., as a result of illness).
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- sUAS damage (e.g., as a result of collision, [bird strike](#) or extreme weather).
 - Illegal activity (e.g., willful damage, spoofing or hijacking, etc.).

An emergency or abnormal situation may result in it being impossible to continue the flight to destination as planned, resulting in one or more of the following outcomes:

- Loss of altitude.
 - Fly Away.
 - Loss of Command and Control of the sUAS (lost link).
 - Diversion to a planned or unplanned emergency landing zone or divert location.
 - Forced landing.
28. **sUAS Team Leader:** Appointed by the accountable executive (Director, Chief, Deputy or other executive position). This individual is responsible for sUAS program management and retains full oversight responsibility of all logistical and administrative elements of sUAS operations for (YOUR AGENCY NAME). This includes, but is not limited to, ensuring that any person that operates the sUAS, or has a responsibility with the sUAS operation, is properly trained and designated for whatever roles they may fulfill.
 29. **Visual Line-of-Sight (VLOS):** The ability of the RPIC and/or VO(s) to be able to see and determine the trajectory of the sUAS throughout the entire flight with vision that is unaided other than by corrective lenses or sunglasses or both, and to determine its movement relative to intruding aircraft, obstacles, and terrain and observe the airspace for other air traffic or hazards to determine that the sUAS does not endanger the life or property of another.
 30. **Visual Observer (VO):** A person who is designated by (YOUR AGENCY NAME) and/or RPIC to assist the RPIC (or the person manipulating the flight controls) to maintain VLOS with the sUAS.

III. ACCOUNTABILITY

(YOUR AGENCY NAME) promotes accountability by requiring all personnel to accept responsibility for the decisions and actions they undertake, and to evaluate the potential consequences of those decisions and actions. (YOUR AGENCY NAME) imposes codes of conduct to guide its employees in the use of all rescue methods, including sUAS. As with the use of any technology, there must be policies and guidance for utilization and oversight, along with procedures to hold (YOUR AGENCY NAME) and its employees accountable. The senior accountable officer is ultimately responsible for activities and performance of (YOUR AGENCY NAME) employees, as well as the operation of a sUAS and its program management.

Part of accountability is ensuring that (YOUR AGENCY NAME) personnel are appropriately trained and supervised. (YOUR AGENCY NAME) personnel whose responsibility it is to manage, supervise, maintain, fly and/or otherwise use sUAS must receive training on this policy and the underlying policies incorporated within the sUAS program and (YOUR AGENCY NAME).

Approval authority for the deployment of a sUAS in support of a (YOUR AGENCY NAME) mission will be set at an appropriate and consistent level across (YOUR AGENCY NAME). At a minimum, each time a sUAS is deployed, approval should be granted by the senior officer in charge or the equivalent position (on scene incident commander). Notifications, when practical, should be made to the sUAS program's designated executive level supervisor at (YOUR AGENCY NAME) headquarters. Additionally, since (YOUR AGENCY NAME) may only deploy a sUAS in connection with authorized crisis response activities or routine events (i.e., training, etc.), supervisors must ensure that the underlying events themselves, or the crisis response or training activity, has been authorized consistent with applicable guidelines and other policies. In certain instances, sUAS deployment will occur in response to a developing emerging emergency event and in those cases, prudent judgment must be exercised by the senior officer present and the appropriate supervisor notified immediately. In no case will a (YOUR AGENCY NAME) sUAS be flown without specific notification and authorization from the appropriate chain of command. All sUAS operations shall be recorded and all records retained in accordance with standing (YOUR AGENCY NAME) policy.

IV. CONCEPT OF OPERATIONS (CONOPS)

(YOUR AGENCY NAME)'s Concept of Operations (CONOPS) is (YOUR AGENCY NAME)'s broad description of operations, or series of operations, and is designed to provide an overall description of the planned or anticipated employment of the sUAS to support (YOUR AGENCY NAME) missions. For this (YOUR AGENCY NAME), the sUAS CONOPS is to enhance the mission effectiveness, provide tactical aerial support, provide real-time situational awareness upon which risk-based decisions may be executed, capture incident-related imagery related to the crisis response, and generally assist on scene assets in the execution of their various roles during any emergency response event, or in high threat situations where the operating environment may be hazardous to responders and the public. The deployment of this technology may also be provided to support forensic data collection in support of any investigation.

All sUAS deployments should be authorized by appropriate chain of command and conducted within an authorized training location or Defined Incident Perimeter controlled by appropriate public safety representatives.

IV. sUAS SYSTEM REQUIREMENTS (Procurement Considerations)

In order to meet the expected CONOPS for (YOUR AGENCY NAME), any sUAS system that may be procured must meet basic mission capabilities. Some general sUAS capabilities and system considerations should include, but not be limited to, the following:

- The sUAS vendor should provide appropriate system operating and maintenance manuals as well as training and technical support, if available.
- The sUAS program should prepare a cost model that considers the cost of all supporting equipment necessary to operate the system and properly equip the crew members.
- The sUAS should be contained and transported within an appropriate case to prevent damage.
- The sUAS should exhibit a flight time of at least 15 minutes.
- The sUAS should include an integrated image (still and video camera) system (electro-optical high-definition and infrared selectable camera system preferred).
- The sUAS should be able to be transported, set up and launched by one officer. The setup and preflight should not be complicated or overly cumbersome. The time from setup to preflight to launch should not be extensive (optimum would be less than 10 minutes).
- The sUAS should have the ability to capture flight time by individual flight, as well as a cumulative flight time over a certain period. The ability to reset the flight time counter should be restricted to a program supervisor or administrator.
- The sUAS should have an autonomous capability or onboard systems to minimize remote pilot manual flight inputs (i.e., autopilot, system stabilization, geo-fencing and maximum altitude constraints software) and a reliable “fly-home” protocol in instances of loss of link.
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Equipping the aircraft with weapons of any type is strictly PROHIBITED. Further, public acceptance of airborne use of force is likewise doubtful and could result in unnecessary community resistance to the program. The use of ‘home-built’ model aircraft, modified with cameras or other sensors, is discouraged due to concerns over reliability and safety.

VI. STANDARD OPERATIONS PROCEDURES

System Storage

The sUAS and all support equipment, (e.g., spare parts, battery chargers, folding tables and chairs, radio equipment, etc.) will be securely stored and maintained in an appropriate location at the (YOUR AGENCY NAME) facility for timely portability and deployment. Consideration should be given to the storage and transport of sUAS batteries. A supervisor will be assigned as responsible for all program equipment and will ensure said equipment is labeled, coded and recorded according to (YOUR AGENCY NAME) standing policy.

System Transportation

The sUAS system will be stored in a case(s) that can be easily carried and will protect the contents from excessive loads during transport. The sUAS may be transported via (YOUR AGENCY NAME) ground vehicles, aircraft or other method with supervisory approval.

Prior to transporting the sUAS for deployment, the crew member(s) responsible for transport will ensure that all necessary equipment is loaded by reference to the approved sUAS Equipment Checklist (Appendix A).

Battery Transportation

Batteries will be transported in approved sealed cases only. The sUAS batteries will be stored in approved cases and will be charged and maintained using OEM or approved recharging systems. While charging, batteries will be kept in area away from fuels, and combustibles. Batteries will also be charged in charging safety packs when available. All batteries will be numbered and maintained according to manufacturer recommendations.

Mission Readiness

In order to ensure that (YOUR AGENCY NAME) sUAS operations remain fully mission ready, all of the policies and procedures within this operating doctrine shall be complied with. The following standard operations address most, but not all, of the operational protocols for safe sUAS deployments:

- sUAS operations for training and proficiency may be conducted under 14 CFR Part 107. Whenever such operations are conducted, the RPIC will place a statement in the remarks section of the Flight Tracking Form (FTF) stating that the flight operations were conducted under that operating standard. All operational missions (planned or emergency responses) will be conducted under a Certificate of Authorization (COA) issued from the FAA or under 14 CFR Part 107. (YOUR AGENCY NAME) shall contact the FAA early in the planning process

to determine the requirements and submit appropriate application for obtaining a COA and/or operations under 14 CFR Part 107.

- A supervisor should approve all public safety missions, training or demonstration flights. All flight operations should be conducted in accordance with the manufacturer's recommendations and (YOUR AGENCY NAME) policies and procedures.
- Only personnel, both pilots and crewmembers, who have been trained and certified in the operation of the system, will operate the (YOUR AGENCY NAME) sUAS. All (YOUR AGENCY NAME) personnel with sUAS responsibilities, including BoD, crew leaders and crew, will be provided training in the policies and procedures governing their use.
- All flights will be properly documented on a dedicated form (Flight Tracking Form) or sUAS Mission Tracking Software designed for that purpose, and all flight time shall be accounted for on the form/software. The purpose or reason for the flight and name of the supervisor approving will also be documented on that form/software.
- An authorized supervisor/administrator will be assigned to conduct periodic audits of all documentation related to the program (FTF, Maintenance Action Form (MAF), Mishap Forms, Training records, etc.) quarterly, but not less than annually. The results of the audit will be documented. Any changes to the flight time counter will be documented.
- Except for those instances where responder safety could be jeopardized, (YOUR AGENCY NAME) may use the "Reverse 911" telephone system to alert those living and working in the vicinity of aircraft operations (if such a system is available). If such a system is not available, the use of law enforcement patrol car public address systems may be used. This will not only provide a level of safety should the aircraft make an uncontrolled landing, but citizens may also be able to assist with the incident.
- Prior to takeoff, the sUAS should be programmed to direct it to return to the launch point (home) if the Command and Control (C²) signal is lost for the specified period of time. In the event of a C² interruption (loss of link) with the sUAS, lost link procedures should be executed with the immediate landing of the sUAS.
- When the sUAS is deployed to meet an approved mission task, it should be recovered within the same general area, if possible.
- A designated safe area of at least 25 feet diameter should be maintained during takeoff and landing evolutions. No personnel, except the sUAS flight crew, shall be within that safe area during those operations.
- sUAS operations will be conducted during daylight hours unless night operations are approved in the (YOUR AGENCY NAME)'s COA or authorized under a waiver for 14 CFR Part 107 operations. If due to exigent circumstances, night operations are necessary (and the mission is approved by the appropriate chain of command (supervisor)), the RPIC should contact the FAA System Operations Support Center (SOSC) to request a Special Government Interest (SGI) approval.
- The RPIC shall make every effort to ensure that flight operations will not pose any undue risk to the personnel directly involved with the mission. The RPIC is the FINAL AUTHORITY concerning the safety and flight of (YOUR AGENCY NAME) sUAS. The RPIC shall have final determination of risk to the public and authority over any launch of the aircraft. In all cases, the sUAS should not be flown over nonparticipants (with the exception of those

nonparticipants who are the subject of the mission) and/or property in a manner that is in violation of the FAA regulations and/or the approved COA.

- If, at any time, the RPIC and/or the Observer(s) believe there is a potential for air-to-air conflict, collision, risk of harm/injury to persons or property, the RPIC should abort the flight and immediately land the sUAS. When the hazard has been resolved/mitigated, the flight operation may resume. Please see appendix XX for Risk Management and Crew Readiness guidelines
- Any sUAS operations expected to be conducted within any controlled airspace, or in close proximity of an airport, will require coordination with the airport operator and/or FAA approval through the provisions of the COA or through coordination with the FAA System Operations Support Center.
- (YOUR AGENCY NAME) sUAS flight operations will not be flown within unsafe distances to any building, structure, tower or person, except when the risk of a collision and loss of the sUAS is outweighed by the need to obtain critical information needed to stop a threat or save life.
- Weather is a critical issue for safe operations. A local source of weather may be utilized, or the Internet or phone application, or may be observed onsite. The sUAS will not be flown outside the approved/authorized weather minimums identified by the manufacturer or the restrictions of 14 CFR part 107, or the (YOUR AGENCY NAME) approved COA by the FAA. The RPIC shall have final determination of risk due to weather and authority over any mission.
- Unauthorized use of (YOUR AGENCY NAME) sUAS could result in disciplinary actions.

Flight Operations

Normal Procedures

Preflight

A preflight check of the sUAS utilizing an appropriate Checklist and GCS Preparation, will be completed prior to flight and should incorporate the manufacturer's recommendation and applicable Federal Aviation Regulations (FARs). The RPIC shall conduct a preflight crew briefing before every mission to ensure duties, responsibilities, mission objectives, hazards, weather and any information deemed necessary is clearly conveyed to the sUAS team (see FAA AC 107-2).

Communications

All radio communications required by the FAA will be complied with. Communications with sUAS team members and the on scene commander during operations will be limited to operationally necessary communications in order to minimize disruptions or distractions of the RPIC and team members. Federal Communications Commission (FCC) ground station licenses may be required by the FCC for state and local agencies and authorizations may be required from the National Telecommunications & Information Administration (NTIA) for federal agencies.

All communication will be in "clear speech". 10 codes will not be utilized.

General Procedures

1. The sUAS should be operated in accordance within manufacturer specifications and applicable FAA limitations and restrictions.
2. Care shall be taken in the operation of the sUAS to avoid overflying persons and property that could result in injury or damage whenever possible.
3. A copy of the current valid COA, if the operation is under the COA, shall be present whenever sUAS operations are conducted.
4. The lost link response should be set to the home point and the altitude set in accordance with the altitude limit of the COA or as regulated by 14 CFR Part 107, depending on what authority the operation is being flown.
5. 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 officer safety.
6. All sUAS team members should comply with all limitations, restrictions and requirements as enumerated in the COA or as directed by 14 CFR Part 107. The RPIC will function as team leader and the operator of the sUAS. The RPIC is ultimately responsible for the operation and safety of

the sUAS mission and is solely responsible for the input of commands/piloting of the sUAS during flight.

7. The RPIC shall be responsible for the system assembly, setup, preflight, operations, post-flight, disassembly, storage and paperwork for every mission. Additionally, the designated VO(s) and other personnel as assigned can assist the RPIC in all of these activities.
8. The RPIC shall be responsible for contacting the FAA in order to publish the applicable Notice to Airmen (NOTAM) prior to the mission if required.
9. An Air Band radio will be part of the sUAS crewmember kit in order to communicate with or monitor the local controlling Air Traffic Authority, or other aircraft if operating nearby an active departure or arrival facility. Additionally, the ability to communicate with low flying first responder helicopters for airspace de-confliction will be increasingly important as sUAS presence will continue to increase at crisis sites.
10. The sUAS should operate with position navigation or anti-collision lights at all times.
11. No pilot in command of a civil aircraft may allow any object to be dropped from that aircraft in flight that creates a hazard to persons or property. However, this section does not prohibit the dropping of any object if reasonable precautions are taken to avoid injury or damage to persons or property (FAR 91.15).
12. The RPIC shall obtain and record the most up-to-date weather forecast for the area of operation.
13. The RPIC shall conduct a pre-mission briefing to ensure all crewmembers and supporting personnel are fully informed about all aspects of the mission to include, but not limited to, the purpose of the mission, the Defined Incident Perimeter, the weather, any flight hazards or other safety issues and any special coordination concerns.
14. All sUAS operations should be conducted at less than 400 feet Above Ground Level (AGL) or within the limitations of the COA under which operations may be carried out.
15. The operating guidelines related to ambient temperature are stated in the manufacturer's flight operations handbook. The battery and flight duration may be adversely affected when high ambient temperatures exist. Flight length should be adjusted accordingly based on high humidity and temperature.
16. The sUAS should not be operated in sustained winds greater than the manufacturer's recommendations. The RPIC may decide that wind conditions in the operation area are too hazardous and opt not to fly.

Post-flight

A post-flight check of the sUAS will be completed on accordance with the manufacturer's recommendation and applicable FARs utilizing the Post-flight Checklist (Appendix A). The sUAS shall then be prepared for redeployment or for disassembly and storage.

Emergency Procedures

Emergency procedures are typically stated in the manufacturer's flight operations manual. They may be detailed or very brief. In any case, the manufacturer's specified emergency procedures should be complied with for all sUAS operations. The (YOUR AGENCY NAME) may choose to add additional amplifying information to add clarity and an explanation for the published emergency procedures. (YOUR AGENCY NAME) may also add emergency or abnormal procedures to a checklist to address issues not covered by the manufacturer.

A. LOSS OF FLIGHT CONTROL (Lost Link), Return to Home (RTH)

The sUAS lost link procedures should be set to enable the sUAS to climb to its programmed maximum ceiling altitude and then return to and land at the launch site. An emergency procedures checklist should be developed for each platform operated by (YOUR AGENCY NAME). The initial procedure in any loss of link condition is to verify the status of power on the vehicle and GCS, and to adjust the antennas in order to get an optimum line of site to the vehicle. If positive control of the sUAS cannot be re-established and it is leaving the area of operation (Defined Incident Perimeter) (Fly Away condition), or the sUAS poses a risk to life and/or property, the RPIC will issue an Engine Kill command (if a feature of the sUAS) and should immediately notify the local ATO facility providing the location and circumstances, last known direction of flight and altitude and the registration number. The RPIC will then immediately inform the chain of command providing all details needed and complete the appropriate incident form.

B. LOSS OF VISUAL CONTACT

If visual contact with the sUAS is lost during any mission, the RPIC should command the aircraft into a hover mode and the RPIC and VO shall try to re-establish visual contact. If visual contact cannot be re-established within a reasonable amount of time, as determined by the RPIC, then the RPIC shall execute the emergency lost link procedures (RTH) to attempt to reacquire visual contact. If the RPIC and VO are unable to reacquire the sUAS, the flight should be terminated. The RPIC should complete the appropriate incident form for the termination of the flight.

C. LOSS OF GPS SIGNAL

Should the sUAS lose the GPS signal during autonomous operations, the RPIC must immediately take manual command of the sUAS and land as soon as practical. If positive control of the sUAS cannot be maintained and the sUAS is leaving the operation area, or the sUAS poses a risk to life and/or property, the RPIC will issue an Engine Kill command. If the sUAS is not located, the RPIC should immediately notify the local ATO facility, providing the location and circumstances, last known direction of flight and altitude, and the registration number. The RPIC will then immediately inform the chain of command, providing all details needed and complete the appropriate incident form.

D. LOSS OF POWER (Motor Failure)/sUAS Forced Landing (CRASH)

In case of a motor failure or loss of battery power, the sUAS cannot maintain flight. The RPIC will immediately notify the chain of command, note the location and time of the mishap and then, together with the supporting crewmembers, will attempt to locate and recover the sUA. The RPIC shall assess the impact site for injuries, and render first aid if necessary. The RPIC shall take pictures of the sUAS at the impact site, record the location and time and complete the necessary mishap forms. The RPIC will prepare the appropriate notifications to comply with (YOUR AGENCY NAME)'s mishap reporting procedures.

E. LOST COMMUNICATION WITH VO(S) OR ON SCENE COMMANDER

1. Remote Pilot-in-Command (RPIC) and Visual Observer (VO)

If the VO(s) is distant and not within normal speaking range of the RPIC, both the RPIC and the VO(s) shall use communication devices for continuous communications that are NOT on the tactical frequency at the scene. In the event the RPIC loses communications with the VO, the RPIC will immediately land the sUAS until communications can be regained. In all cases, when during loss of communications there is concern for people or property in the air or on the ground, the

RPIC will immediately land the aircraft. Once communications with all crewmembers is re-established, the mission may resume.

2. Remote Pilot-in-Command (RPIC) and Air Traffic Control (ATC)

If required, the RPIC will communicate with ATC through use of two-way radio communications or a cellular phone based on the agreement between ATC and the RPIC. In the event the RPIC is unable to establish communications, the RPIC will immediately land the sUAS until communications can be regained. In all cases, when during loss of communications there is concern for people or property in the air or on the ground, the RPIC will immediately land the aircraft. Once communications with ATC is re-established, the mission may resume.

Mission Callouts/Requests

There are generally three types of mission callouts/requests for which (YOUR AGENCY NAME) may deploy its sUAS: 1) Emergency Responses, 2) Planned Support Missions and 3) Demonstration Flights. All requests for the deployment of the sUAS will coordinate through either dispatch, or (YOUR AGENCY NAME) supervisor and be authorized by the appropriate supervisor, who will make the determination if deployment of the sUAS team will be appropriate for the mission. A mission should be planned prior to the flight unless a supervisor authorizes, due to immediate exigent circumstances, to conduct the flight posthaste. The RPIC will then proceed to set up the mission by reviewing the weather, location, type of incident and personnel to support the mission (VO, camera operator, etc.). The RPIC is responsible for completing the flight log and any other required documents. No mission will be flown without authorization from the appropriate supervisor. The RPIC is authorized to evaluate the mission, coordination required, risk factors for the response, and accept or decline any mission request, or portion thereof. The basis for declining a mission should be communicated to requesting personnel. The sUAS supervisor should be notified by the RPIC as to the reasons for declining a specific mission. Additionally, the sUAS pilot declining the mission should document the circumstances. Supervisor and RPIC considerations for authorizing deployment of the sUAS include, but are not limited to, the following:

- The location of the mission, for purposes of ensuring the safety of people, officers and property.
- Defined Incident Perimeter. Law enforcement personnel must secure the Defined Incident Perimeter to prohibit civilian traffic or interference and protect responding assets at the scene during flight operations.
- The weather and its potential effect on the mission.
- The potential usefulness of the information gathered through other means.
- A “Risk Assessment Worksheet” will be completed that includes all of the factors listed, and a point scale that requires escalating level of authority for high-risk flights. That “high-risk” can refer to threats to a crew from subjects in the vicinity/security, threats to a surveillance of detection, threats to the public from the operating environment or elevated risk due to a fatigued crew.
- Operational Site Assessment. The RPIC and Observer(s) are responsible for identifying all ground and flight HAZARDS at the scene (i.e., infrastructure, buildings, tree canopy, distance between buildings, smoke, trees, bushes, power lines and other potential obstructions) and coordinate the preflight briefing accordingly. The flight team should identify cell towers, TV

and microwave sources, which may create interference with the flight equipment. The equipment should be tested on the ground to ensure proper communications and operation before flight.

- Takeoff and Landing Site. This area should be free from obstructions, items on the ground and debris that may interfere with the rotors. This includes creation of flight line/launch and recovery zone from which all officers must remain clear.
- Documentation. A copy of the current COA, flight log and pilot certifications must be kept with the sUAS at all times. At the conclusion of each mission, the RPIC will be responsible for completing all of the mission documentation and reports.
- The R-PIC, VO and other team members will have photo ID displayed and will have in their possession a copy of current certification. All team members will wear a shirt or vest that identifies them as part of the sUAS team.

Takeoff and Landing Zones

The selection of an appropriate launch site demands careful attention to many factors. The selection of a suitable site shall be driven by safety first and foremost. Considerations for the selection of a suitable launch site include, but are not limited to, the following:

- a) The launch site ensures sUAS departures are not over populated areas. When and where possible, an approved launch platform will be used. This platform will be marked with high contrast/high visibility marking and be no smaller than 36”X36”. It will be lit adequately to see from 100ft AGL in the event of night operations.
- b) The ability to remain within the Defined Incident Perimeter and maintain an adequate buffer zone between aircraft and responding personnel. The RPIC should maintain an adequate buffer between aircraft launch and recovery operations and all responding non-sUAS personnel. The RPIC may designate an individual as a Safety Officer to ensure the safety and security of the launch and recovery area.
- c) Coordination and Communications between crewmembers and the on scene commander.
- d) The operation area selected by the sUAS team should be located within a secure perimeter, whenever possible. The area should be evaluated for adequate space and clearances in order to safely assemble, launch and recover the sUAS. Attention should be given to overhead obstacles and obstructions that may pose a risk to the sUAS during operation. The site selected and utilized by the sUAS team should be restricted and access granted to personnel for operational purposes only. The site should allow for long-duration sUAS operations free from access to casual observers and noninvolved personnel, which can become a significant distraction.

Alternate (Emergency) Landing Sites

- a) Typically, the primary landing area shall be the same as the launch site. The RPIC has final authority for any approaches to the primary landing site and may wave off any approach deemed unsafe.
- b) The RPIC should designate at least one alternate landing site. In the event that the primary landing site is deemed unsafe, the alternate landing site should be utilized.
- c) The RPIC may optionally designate an “abortive flight site,” whereby the aircraft flight may be terminated in an emergency situation. This site should be clear of people and structures as to limit

the risk should the aircraft be required to vacate airspace in an emergency. Should the RPIC deem the necessity of terminating the sUAS flight, the sUAS may be flown to this site and the flight terminated.

- d) An adequate safety buffer should be established between the sUAS takeoff and landing area, and people not specifically involved in the sUAS flight operations.

Prohibited Acts

Unauthorized use, or use inconsistent with applicable law(s) of a sUAS, could result in disciplinary actions and/or civil and criminal penalties.

- The sUAS shall not be operated in violation of applicable law/regulations and/or the U.S. Constitution. When a search warrant is required by law, and no warrant exception exists, flight is prohibited unless a search warrant is obtained.
- The sUAS should not be flown in conditions that exceed the manufacturer's recommended limitations to include range, ceiling, wind strength and battery charge.
- The sUAS shall not be flown for any mission that the RPIC determines the risk of flying the sUAS outweighs the benefit to the mission. Risks may include hazards to individuals, property on the ground, possible collision hazard with other aircraft and loss of control of the sUAS. The RPIC has sole discretion and responsibility for the safety of flight of the sUAS.
- The sUAS is prohibited from carrying hazardous materials.
- sUAS flights are prohibited in Class B airspace without appropriate FAA Emergency COA (ECO) authorization, and should not exceed a 400 foot ceiling height without prior approval from the FAA ATO authority.
- Only one sUAS should be flown, by a single control station and by one pilot at a time. This guidance is not intended to prevent a second sUAS, with available technology, relieving the primary sUAS on station.
- sUAS operations are prohibited when other manned aircraft are operating within the Defined Incident Perimeter unless appropriate safety margins of altitude separation (de-confliction of airspace) can be established and maintained.

VII. REMOTE PILOT AND VISUAL OBSERVER TRAINING

Remote Pilot-in-Command (RPIC)

(YOUR AGENCY NAME) RPICs flying a sUAS in support of any emergency response mission will first receive appropriate aeronautical knowledge (“ground school”) training. Following completion of aeronautical knowledge training, the RPICs will complete initial flight training on the specific sUAs they will be flying operationally from the sUAS manufacturer (if provided) or by a qualified/designated UAS ISAO approved sUAS instructor. Remote pilots should comply with these Standard Operating Policies and remain current in order to be available for flight operations. The RPICs will maintain a working knowledge of the operational airspace, risk management policies and procedures, and the ability to obtain appropriate weather forecasts and conditions, and the filing of Notices to Airmen for the area of operations. All RPICs shall be familiar with the applicable aviation regulations, and maintain proficiency in their operator and observer abilities. All RPICs must complete and document all flight training and mission flight time to maintain their sUAS currency as required by the operator’s FAA Remote Pilot Certificate. RPICs who do not, or cannot maintain currency shall complete a proficiency flight check before performing pilot duties during an operational mission. Repeated failures to maintain proficiency will result in removal as a remote sUAS pilot. Qualification and training consists of the following:

- Basic Aeronautical Knowledge and Flight Operations Training. All RPICs must successfully complete and pass a Basic Aeronautical Knowledge Training Curriculum and Initial Flight Operations Training administered by the sUAS manufacturer or a certified (Agency or Training partner) sUAS instructor.
- Mission Training. All RPICs must also undergo Mission Training Exercises held on a routine basis to increase core competencies. These scenario-focused training events will include operation of the sUAS, crew coordination and communications, Observer duties and Safety Officer duties.

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- All RPICs must complete/log a minimum of three qualifying sUAS flights, to include takeoffs and landings, in the preceding 90 days to be eligible to act as Remote Pilot-in-Command during an operational mission.
 - If a sUAS RPIC has not maintained currency in the sUA, as describe above (fewer than three flights in the preceding 90 days), they must notify their immediate supervisor and will not be eligible to operate the sUAS as RPIC (except for training purposes) until they regain currency. In order regain currency as a RPIC, the RPIC has 60 days to fly the three Launch/Recoveries. These flights should be observed and supervised by the UAS ISAO certified instructor who will verify the RPIC competency in the flight of the sUAS.

All remote pilot officers should participate in regularly scheduled training regarding sUAS. Training should include both aeronautical knowledge and flight training. Training should not be limited to actual pilot/observer skills, and should include a review of all pertinent sUAS and related aviation matters.

R-PIC flight time will be tracked and logged into Personnel Flight Time Record (PFTR) See appendix XX

Visual Observer (VO)

Just like (YOUR AGENCY NAME) RPICs, (YOUR AGENCY NAME) VOs supporting any emergency response mission will first receive appropriate training. All HMCSRI VOs will be required to take a UAS ISAO certified VO course. VOs shall comply with these Standard Operating Policies and should maintain a working knowledge of the operational airspace, risk management policies and procedures, and support the crew coordination initiatives of the (YOUR AGENCY NAME). Unless an exigent circumstance exists, at least one VO shall be assigned for all training and operational sUAS missions. Additional VOs may be necessary at the discretion of the RPIC.

For initial training, VOs will be familiar with the specific operational parameters of the sUAS being used by the (YOUR AGENCY NAME). VOs will also train with the RPIC to ensure proper crew resource management. Specifically, communications between the RPIC and the VO will be practiced in order that the VO will provide necessary information (i.e., hazards to flight) to the RPIC in a way that does not distract the RPIC and their operation of the sUA. The VO should have a current working knowledge of the airspace intended for operations to determine potential risks to the sUAS flight. The VO should have the ability to obtain and interpret operational weather conditions to determine the risk to sUAS mission flight.

VO flight time will be tracked and logged into Personnel Flight Time Record (PFTR) See appendix XX

Training Location(s)

sUAS training events will only take place at a site designated and approved by (YOUR AGENCY NAME) for such purpose. The location should be in somewhat remote areas that are clear of flight hazards, people, infrastructure and airports.

VIII. MAINTENANCE PROCEDURES

Appropriate personnel will successfully complete a training course on sUAS maintenance. If no such training exists, designated personnel will learn about various maintenance issues related to the technology and its support equipment (e.g., battery maintenance, battery storage, battery safety, sUAS and ground control station software updates and documentation, rotor blade or propeller replacements, etc.) from the manufacturer. They will carry out all scheduled and unscheduled maintenance, servicing and repairs of the sUAS that they are capable of performing, and they shall document all maintenance activities on (YOUR AGENCY NAME) **Maintenance Log Forms (MLFs)**. (YOUR AGENCY NAME) will perform field repairs, that can be conducted by flight crews. These, repairs are limited to:

1. Replacing props and or rotors
2. Tightening of surface screws, bolts, etc.
3. Surficial cleaning and removal of debris
4. Antenna replacement

All other repairs will be completed by authorized maintenance and repair shops, or vendors.

(YOUR AGENCY NAME) will ensure that a spare toolkit and parts are available for deployment to allow sUAS operators to remedy minor maintenance issues in the field (e.g., tightening loose screws, replacing antennas, changing rotor blades, etc.). If a malfunction exists that cannot be repaired locally, the sUAS will be shipped back to the manufacture/vendor for repair as appropriate. Accurate and complete maintenance logs serve to validate the service history and airworthiness of the sUAS.

(YOUR AGENCY NAME) shall promulgate MLFs that will be available to the RPIC to complete before or after every mission. The MLF will provide adequate space to record a date, time of report, name of person making the report, reason or malfunction for the report, description of what the maintenance action is and a block to indicate that appropriate repairs or maintenance action is completed

and on what date it was accomplished. There must be a space for the person who completed the repairs or maintenance action to sign and date the completed form with a small block that indicates that the sUAS is returned to service. The MLFs will be retained in a logbook serialized for the sUAS they are associated and be retained in the case or near the sUAS so that it may be referred to by any RPIC before flight. Each maintenance log will provide a line for signature by the RPIC or person discovering the malfunction, and the designated person who completed the service or repaired and returned the sUAS to service. The maintenance logbook shall accompany the sUAS and be serialized/labeled to the registration number of the sUAS.

See appendix XXX for (YOUR AGENCY NAME) MLF example

Batteries

Electric powered sUAS technologies will typically use Lithium ion battery packs. Lithium ion batteries have exhibited several documented risks for fire or explosion if not properly handled, charged and stored. The sUAS batteries will be cycled and stored according to the vendor's recommendation. These batteries are normally run through a charger on a monthly basis (as recommended by the manufacturer) to ensure reliable function and immediate operability upon deployment. The charging and cycling of batteries will be documented in a sUAS Battery Log. Batteries will be labeled with the date of original receipt, latest charge cycle and a serial number and replaced as/when necessary. (YOUR AGENCY NAME) should maintain an adequate number of spare batteries to ensure sUAS operability.

See Appendix XXX for battery management procedures and logs

System Configuration Management

The following section outlines mission and system configuration management and associated data requirement best practices to be included as part of applicant applications and operational risk assessment (ORA) considerations. Overall change management practices should be adhered to regardless of whether the change occurring is within the mission concept, aircraft configuration, and use of a sUAS or the interaction between sUAS subsystems. The principles of change management and associated data requirements are part of the overall safety management of a program regardless of the size or scope of involved program's operations. The FAA may have mandatory configuration management and change management requirements. For type certification, there exist data retention requirements and approval requirements of any changes to the sUAS (including software elements).

System Configuration Management (CM) Plan

All sUAS systems operated by (YOUR AGENCY NAME) will use vendor authorized software for mobile devices, computers, aircraft and ground stations. All software will be updated and maintained

according to manufacturer requirements. All approved 3rd party software will be vetted and tested before fielding. Software updates will be managed by the sUAS supervisor or assigned person.

Data Requirements

All sUAS systems maintenance data will be stored throughout the life cycle of (YOUR AGENCY NAME) systems. This is include, but not limited to:

1. Maintenance records
2. Flight logs
3. Safety logs
4. Incident reports
5. Other sUAS documentation that may be deemed important.

This is to assure that (YOUR AGENCY NAME) has the necessary data in an organized, archived, rational retention scheme. Periodic reviews of such data can support (YOUR AGENCY NAME) safety through trend analysis.

IX. RECORD MANAGEMENT

(YOUR AGENCY NAME) shall develop and implement four basic records forms and/or software: 1) Flight Tracking Form (FTF), 2) Maintenance Action Form (MLF), 3) Crew member training record (CTL) and 4) Mishap Reporting Form (MRF) (accident/incident form). These are the four basic records that the (YOUR AGENCY NAME) shall retain in archives to properly record and document all sUAS activity. Additional program documentation may be required according to (YOUR AGENCY NAME) guidelines and reporting requirements.

1. Flight Tracking Form (FTF)

The purpose of the FTF is to accurately capture and record all flight events of each sUAS (YOUR AGENCY NAME) operates. The RPIC shall be responsible for completion of the FTF at the conclusion of every mission (Training or Operational). The completed flight logs will be retained in a binder (logbook) that is labeled and serialized for the particular sUAS it belongs to, or as part of a mission tracking software document. The FTF “logbook” will remain with the sUAS for examination by RPICs, maintenance personnel, supervisory authorities and anyone else having the authorization to review them. The times from each FTF will be transcribed into a monthly and annual report in order to capture the total number of flights/missions and other information deemed appropriate by the (YOUR AGENCY NAME).

2. Maintenance Log Form (MLF)

The purpose of the MLF will be to accurately capture and record all maintenance related actions for each sUAS owned and operated by the (YOUR AGENCY NAME). Any malfunction, broken

or missing part or element, or any abnormality discovered with the sUAS or the ground control station, shall be recorded on a MLF, and that particular sUAS shall be immediately removed from service until appropriate maintenance activity restores it to a safe and airworthy condition, and the MLF is signed off returning the sUAS to service. All completed MAFs will be retained in a binder (logbook) that is labeled and serialized for the particular sUAS it belongs to. The maintenance “logbook” will remain with the sUAS for examination by RPICs, maintenance personnel, supervisory authorities and anyone else having the authorization to review MAFs. It is a best practice for the RPIC to review that last few MLFs in the logbook before commencing a flight. The maintenance actions from each MLF will be transcribed into an annual report in order to capture and summarize the maintenance history of each sUAS.

3. Crew Training Log (CTL)

The crewmember training record is an administrative document that records the name, date, location and the specific type of training received/completed by each crew member. These training records shall be retained in an (YOUR AGENCY NAME) training folder for each crewmember assigned to the program. The supervisory personnel shall complete a quarterly review of each training record to ensure that all assigned personnel have completed all the training evolutions prescribed and administered. If testing is accomplished, the completed test and grade shall be retained in the training folder along with the training records.

4. Mishap Reporting Form (MRF)

(YOUR AGENCY NAME) will publish and make available a standardized Mishap Reporting Form (accident/incident form). This form shall be completed by the RPIC for any event that is deemed relevant to the (YOUR AGENCY NAME). In the event of an aircraft mishap that results in damage to the sUA, damage to other property, injury to crewmembers or other people, the RPIC should immediately notify the chain of command and then complete the MRF with as much detail as possible. The RPIC should consider filling out a MRF whenever any abnormal event before, during or after a flight occurs. These can serve as risk awareness tools and help to establish further or revise mitigations.

Complete (YOUR AGENCY NAME) records will be captured, managed and retained in a manner consistent with applicable laws and regulations. As with records collected by other investigative tools, sUAS units are obligated to retain sUAS collected data in accordance with applicable records retention schedules.

X. OPERATIONAL RISK MANAGEMENT

Operational Risk Assessment (ORA)

Overall change management practices will be adhered to regardless of whether the change occurring is within the operational doctrine, mission concept, aircraft configuration, pilot training, and deployment of the sUAS or the interaction between sUAS subsystems.

Identifying hazards and the risks they pose to sUAS operations is a critical function of risk management and operational safety. Mitigating operational risk to people (participating or nonparticipating) and property is the responsibility of all sUAS participants, but chiefly the RPIC. If operational constraints, environmental conditions or geographic limitations are insufficient for mitigating the risk to people and property, the mission or operational limitations may be revised, additional design assurances provided, or some combination of actions as specified and coordinated among the responding participants Risk Management will be assessed using (YOUR AGENCY NAME) Risk Assessment tools (See Appendix G)

Operational Mitigations

(YOUR AGENCY NAME) Will employ the following methods to eliminate or mitigate existing operational risks from existing hazards.

1. sUAS crew training. Pilot and crewmember abilities to identify hazards are enhanced through training related to flight operations and airspace rules. Through the proper training, pilots and crews are able to develop the critical thinking required for appropriate response to hazards and an overall attitude of safety. For instance, training in standard preflight activities will lower overall risk as crews conduct disciplined checks and assessments of mission plans in association with current conditions present at the time of each flight.

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2. Response scenario training will help prepare sUAS members to effectively and safely respond with sUAS support of on scene events. As a result, properly trained sUAS operators know that risk is reduced through mitigations identified during preflight planning hazard assessment. Training may also dictate the level of pilot capability and knowledge. For flights conducted at or below controlled airspace, training received from another sUAS operator, an online course, or aeronautical training class may provide the requisite knowledge needed to understand airspace rules, aircraft limitations and operational rules of the sUAS operational environment.
 3. Thorough system knowledge will also enhance pilot and crew capabilities. Knowledge of critical performance parameters of a sUAS, such as maximum command and control link range and lost-link protocols, is a precondition for flight. These practices offer a means to avoid potential lost-link hazards. System knowledge is important in recovering from unusual attitudes and avoiding high-risk maneuvers

Mitigation will include predetermined **Mission Go/No-Go Criteria**. Similar to manned aviation, (YOUR AGENCY NAME) sUAS RPICs and crewmembers shall determine their go/no-go criteria in advance. The go/no-go criteria encompass more than simply assessing sUAS limitations. In addition, pilot capability, awareness of the relevant geography (including proximity to people), current and changing weather conditions across the entire flight path, and system limitations, among other factors, inform the final go/no-go decision.

Procedural Changes in Specific Flight Environments If a sUAS operates in a particularly harsh environment, the frequency of inspections may need to be increased and additional maintenance performed.

Common Operational Mitigations for sUAS

(YOUR AGENCY NAME) views sUAS crew training is a key method of risk mitigation. Pilots and Visual Observers and other crewmember abilities to identify hazards are enhanced through training related to flight operations and airspace rules. Through the proper training, various common operational risks can be mitigated and lessons learned may be promulgated. Chief among all the training activities is the need for consistent communications and coordination between the RPIC and all the crewmembers and responders and the on scene commander. Training scenarios (classroom and practical flight training events) will be developed to both enhance flight skills and situational awareness and focus on several anticipated CONOPS mission types. Practice with actual training scenarios that are patterned after expected real mission sets improves awareness, coordination and risk management.

Personal Protective Equipment (PPE). (YOUR AGENCY NAME) will ensure that all personnel are provided with appropriate PPE for the missions they are responding to. This includes telecommunications equipment (e.g., VOX activated radio headsets, clothing, vests, gloves, fire extinguishers, first aid kits, etc.).

XI. STATEMENT ON COMMUNITY OUTREACH, ENGAGEMENT, PRIVACY POLICY

It is essential that (YOUR AGENCY NAME) engage its community early in the planning process, including governing body and civil liberties advocates in order to avert any complaints or negative consequences that would inhibit or perhaps prohibit the acquisition of this technology. (YOUR AGENCY NAME) will assure the community that it values the protections provided citizens by the U.S. Constitution. Further, that (YOUR AGENCY NAME) will operate the aircraft in full compliance with the mandates of the Constitution and state and local law governing flight operations and safety.

Program transparency, in so far as is practical, will permit the community an opportunity to review and comment on (YOUR AGENCY NAME) sUAS program as it evolves. Where appropriate, recommendations offered by citizens or the governing councils should be considered for adoption in (YOUR AGENCY NAME) policy. As with the community, the news media will be kept aware of policy developments and practices where deemed necessary.

Rigorous adherence to the requirements set forth in (YOUR AGENCY NAME) doctrine is not enough to be successful in the public safety mission. (YOUR AGENCY NAME) will continue to facilitate and nurture relationships of trust with the community it serves. Enhancing transparency about (YOUR AGENCY NAME) sUAS operations, including how the (YOUR AGENCY NAME) deploys and operates the technology, creates an informed citizenry and greater confidence in (YOUR AGENCY NAME)'s decision making. As appropriate, (YOUR AGENCY NAME) will complete an annual review

and update as needed its current policies and procedures, and will provide an end-of-year summary of sUAS operations conducted by the (YOUR AGENCY NAME), including a brief description of types or categories of missions flown and the number of times the (YOUR AGENCY NAME) provided assistance to other federal, state, local and tribal agencies or entities.

Protection of Privacy

The (YOUR AGENCY NAME) operates under a set of rules, policies and laws that control the collection, retention, dissemination and disposition of records that contain personally identifiable information. For example, the Privacy Act of 1974 (that applies to federal (YOUR AGENCY NAME) records) contains provisions on unauthorized use and disclosure of information about individuals, and imposes civil penalties on agencies and criminal penalties on (YOUR AGENCY NAME) personnel for violations of applicable requirements. As with personally identifiable information collected in the course of any investigation, these authorities apply to information collected via sUAS. Consistent with applicable existing laws and requirements, the (YOUR AGENCY NAME)'s use of sUAS shall adhere to best practices and (YOUR AGENCY NAME) protocols.

As noted above, the (YOUR AGENCY NAME) shall only collect, use and disseminate information obtained from sUAS for an authorized lawful purpose. The (YOUR AGENCY NAME) shall not retain information collected using sUAS that may contain personally identifiable information for more than the allotted time as specified by the applicable rules, regulations or laws for that (YOUR AGENCY NAME).

Data/imagery collected by sUAS operations that is retained must be safeguarded in accordance with applicable federal laws, executive orders, directives, policies, regulations, standards and (YOUR AGENCY NAME) guidance. These authorities ensure that (YOUR AGENCY NAME) personnel with access to such data follow practices that are consistent with the protection of privacy and civil liberties. Use of all (YOUR AGENCY NAME) information systems may be monitored, recorded and subject to audit, and any unauthorized collection, retention or dissemination of data is strictly prohibited. Further, the (YOUR AGENCY NAME) has procedures in place to review, investigate and address privacy and civil liberties complaints.

(YOUR AGENCY NAME) deployment of sUAS shall continue to be used in a manner consistent with the U.S. Constitution and all applicable laws, regulations and policies, including those protecting privacy and civil liberties.

XII. SAFETY POLICY

During sUAS Operations, the safety of all people is the number one priority of the sUAS team. It is the responsibility of the RPIC and all sUAS team members to assess all hazards within the Defined Incident Perimeter that could pose a potential safety risk, and to deny launching the sUAS or terminate a flight when it is clearly unsafe to continue. The RPIC shall bring safety-related issues to the attention of the on scene commander and the other team members when any condition exists or develops that becomes a

safety concern, including the safety of persons and property on the ground. It should be understood and acknowledged by all participants that the RPIC is the sole and final authority regarding the safe operation of the sUAS.

Except for (YOUR AGENCY NAME) personnel or other authorized persons as required by the mission, all sUAS team members will ensure that no persons are in the vicinity of the sUAS during operations. Under no circumstances shall sUAS operations be conducted directly over large gatherings of people, as a chase vehicle in a vehicle pursuit. Operating from a moving vehicle or vessel will only be approved if the area is sparsely populated and doing so may improve the chances of survival in life safety events. Operating from a vessel shall be conducted only in critical life safety events. Training for vehicle or vessel operation will be conducted. Only in an environment similar to actual mission possibilities.

Except for the purpose of training or with specific supervisory approval, only sUAS personnel who meet the training and qualification requirements in this policy will be permitted to act as a team member.

The designated RPIC is authorized to evaluate and accept, or decline, any sUAS mission or portion thereof for which the safe completion of the mission is in question. Supporting VOs and other team members are expected to assist the RPIC with that mission evaluation and contribute mitigation strategies or issues that are relevant to the RPIC making a valid risk-based decision. All sUAS team members shall comply with the sUAS Operator Manual, warnings, limitations, placards and/or mission checklists at all times unless an emergency dictates otherwise.

XIII. MISHAP REPORTING

Any time any abnormal circumstance, event or mishap occurs before, during or after any sUAS flight, the RPIC is responsible for notifying the appropriate supervisor and completing the (YOUR AGENCY NAME) mishap report form. The RPIC shall be responsible for notifying the (YOUR AGENCY NAME) supervisor for any mishap involving injury or damage to property or the sUAS during any sUAS mission (training or operational). In the case of a serious mishap where injury, damage, forced landing or other serious emergency occurs, the RPIC shall be responsible for reporting and record submission in accordance with (YOUR AGENCY NAME) and FAA reporting requirements. The (YOUR AGENCY NAME) shall develop and promulgate mishap reporting forms that include appropriate telephone numbers and contact information. The (YOUR AGENCY NAME) shall retain and make available to (YOUR AGENCY NAME) personnel the mishap reports so that appropriate lessons learned may be derived for every event with the intention to prevent any re-occurrence.

Mishap Action Priority

Immediately following any incident/accident, all efforts will be focused on:

- 1) Minimizing any other risk to life or property.
- 2) Rescuing and caring for the injured.
- 3) Contacting emergency services (Fire, EMS, etc.).

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- 4) Securing the mishap location from unauthorized entry.
 - 5) Completing the initial notification to (YOUR AGENCY NAME) supervisors.
 - 6) Recording as much information as possible for the mishap report.
 - 7) Notify FAA and/or National Transportation Safety Board if required.

Mishap Investigations

sUAS supervisory personnel utilizing (YOUR AGENCY NAME) Accident/Incident Investigation Form shall conduct an initial mishap investigation. Any follow-up investigation(s) will be conducted by the appropriate (YOUR AGENCY NAME) personnel and shall include a careful review of all mishap reporting information.

sUAS Damage

Any damage to the sUAS or its support equipment shall be immediately reported to an aviation unit supervisor. Any damage to the sUAS or its equipment that is determined to render the system un-airworthy shall be labeled (e.g., utilizing a red tag) so as to be visually observable. A sUAS supervisor will be contacted and advised.

XIV. DATA COLLECTION and MANAGEMENT

Image Recording and Retention

Each flight of (YOUR AGENCY NAME) asset or aircraft flying for (YOUR AGENCY NAME) will be recorded and retained. This is for the express purpose of accountability. All supporting imagery related to any operational mission that is retained will be treated in accordance with existing evidence control and archiving policies of (YOUR AGENCY NAME). Any time the sUAS is used for an operational mission, the entire mission shall be recorded. The recording will be removed from the sUAS or GCS and considered original mission data. That data shall be handled in accordance with (YOUR AGENCY NAME)'s electronic storage guidelines, to include chain-of-custody considerations, and duplication to a storage medium that has an appropriate digital shelf life.

Cameras used on sUAS may capture images in areas that manned aircraft cannot, which results in an increase concern by the (YOUR AGENCY NAME) of collateral or "unintended imagery" capturing of people or activities outside the scope of the mission. The sUAS may capture images that are not

intended. Additionally, a sUAS may fly over someone's backyard that has a privacy fence and capture images in the yard or outbuildings that were not part of the mission. Also, during public gatherings (e.g., public demonstrations), the sUAS will capture the faces and therefore potential identities of everyone in a line of demonstrators who are exercising their lawful right to assembly. (YOUR AGENCY NAME) will make every effort to keep cameras focused on mission details and will not release to the public any imagery that is deemed sensitive. (YOUR AGENCY NAME) will only turn over mission imagery upon proper requests by other agencies, or persons.

Unless exempt by law, all retained sUAS images should be available for public inspection.

XV. APPENDIXES

(Items that should be included in SOP)

- A. Equipment Checklist**
- B. Battery Maintenance Form**
- C. Flight Tracking Form**
- D. Maintenance Action Form**
- E. Pilot Flight Time Training Form**
- F. Mishap Report Form**
- G. Incident Report**
- H. Risk Assessment Form**
- I. Site Assessment**