LAW ENFORCEMENT POLICY CENTER

Small Unmanned Aircraft Systems

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International Association of Chiefs of Police

The IACP Law Enforcement Policy Center creates four types of documents: Model Policies, Considerations Documents, Concepts & Issues Papers, and Need to Know one-page summaries. Typically, for each topic, either a Model Policy or a Considerations Document is created, supplemented with a Concepts & Issues Paper. This file contains the following documents:

- ***Model Policy****:* Provides police agencies with concrete guidance and directives by describing in sequential format the manner in which actions, tasks, and operations are to be performed.
- ***Concepts & Issues Paper****:* Designed to provide context and background information to support a Model Policy or Considerations Document for a deeper understanding of the topic.
- ***Need to Know...***: Synthesizes the key points of the topic into a brief, one-page overview. This document is developed by Policy Center staff following the final approval of the policy and paper.

Model Policy

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Small Unmanned Aircraft Systems

I. Purpose

The use of small unmanned aircraft systems (sUAS) to support law enforcement operations has become widely accepted as a potential low-cost alternative to traditional aviation programs. However, prior to their use, a law enforcement agency should develop a separate, detailed policy outlining procedures for the appropriate use of sUAS.

II. Policy

It is the policy of this agency that sUAS shall be deployed only for specific public safety missions, in compliance with all applicable laws, and only by trained and authorized personnel.[1] This policy is not intended to be all-inclusive, but instead shall serve as a supplement to other agency policies and procedures, applicable national aviation authority regulations, and sUAS manufacturers' approved flight manuals.

III. Definitions

- *Digital Media Evidence (DME):* Digital recordings of images, sounds, and associated data.
- *Remote Pilot in Command (RPIC):* The individual with the final authority and responsibility for operation and safety of an sUAS operation.
- *Small Unmanned Aircraft System (sUAS):* An unmanned aircraft and its associated elements, including communication links and the components that control the aircraft that are required for safe and efficient operation.
- *Unmanned Aircraft:* An aircraft that is operated without direct human intervention from within or on the aircraft.
- Also called remote piloted aircraft or drones.
- *Visual Observer:* If used, an sUAS flight crewmember designated by the RPIC to assist with the responsibility to identify and avoid other air traffic or objects in the air or on the ground.

IV. Procedures

A. Program Administration

1. Agency sUAS shall be used only to support agency operations.
    a. The list of authorized missions shall be clearly defined.

[1] Some agencies may choose to contract with an external sUAS operations provider to accomplish the duties outlined in this document.

   b. Those missions may include, but are not limited to,
      i. situational awareness;
      ii. search and rescue;
      iii. tactical deployment; and
      iv. incident scene documentation (crime, traffic crash, disaster).
2. The sUAS program shall be limited to those personnel assigned by the chief executive and may include a commanding officer, supervisor(s), RPICs, visual observers, persons permitted to manipulate the sUAS controls, and others deemed necessary to ensure safe and efficient operations.
3. To enhance the level of safety and promote appropriate use of sUAS, all procedures contained herein shall be followed without deviation, unless necessary during an emergency, or with appropriate supervisory approval.
4. Complaint Investigations
   a. Should there be a complaint alleging inappropriate use of the sUAS, the complaint shall be handled in accordance with agency protocols for internal investigations.[2]
   b. Any complaint alleging a violation of a person's civil rights by use of the sUAS shall be documented and be investigated through this agency's policy regarding investigation of complaints.
   c. Unauthorized or inappropriate use of an sUAS shall result in strict accountability, in accordance with established disciplinary procedures.
5. Auditing and Annual Reporting
   a. A supervisor shall audit flight documentation monthly. This audit shall include, at minimum, a summary of the following:
      i. number of missions/uses;
      ii. appropriateness of uses;
      iii. evaluation of the effectiveness of the sUAS;
      iv. safety concerns;
      v. equipment concerns; and
      vi. flight time, to include a review of flight logs or data from flight time counters.
   b. The results of the audit shall be documented and submitted to the designated personnel for review.
   c. The agency should publish an annual report documenting the agency's use of sUAS. This report should be a public document and shared with the community.

[2] See the IACP Policy Center documents on Investigation of Employee Misconduct available at https://www.theiacp.org/resources/policy-center-resource/employee-misconduct.

B. Personnel Qualifications and Training

1. All sUAS program personnel shall receive training necessary to safely, efficiently, and effectively manage or operate sUAS, to include initial and recurrent training.
2. All RPICs shall hold the appropriate credentials.
3. All sUAS program personnel shall receive training in the legal aspects of sUAS use.
4. All sUAS program personnel shall receive annual training on the policies and procedures governing the use of the equipment.

C. Operational Procedures

1. Agency sUAS operations shall comply with the guidelines from the applicable national aviation authority.[3]
2. All sUAS missions should be approved by a supervisor. Supervisory personnel should manage all deployments and uses of sUAS to ensure that officers equipped with sUAS devices utilize them in accordance with policy and procedures defined herein.
3. All flights shall be documented on a form or database designed for that purpose, and all flight time shall be accurately recorded. In addition, each deployment of the sUAS shall include information regarding
    a. the reason for the flight;
    b. the time, date, and location of the flight;
    c. the names of the supervisor approving the deployment and the staff assigned; and
    d. a summary of the activities covered, actions taken, and outcomes from the deployment.
4. Except for those instances where officer safety or investigation could be jeopardized, and where reasonably possible and practical, agencies should consider notifying the public in the area of the flight.
5. Where there are specific and articulable grounds to believe that the sUAS shall collect evidence of criminal wrongdoing and the sUAS shall be used in a manner that may intrude upon reasonable expectations of privacy, the agency shall obtain a search warrant prior to conducting the flight.
6. The agency shall collect data using sUAS or use sUAS-collected data only to the extent that such collection or use is consistent with and relevant to an authorized purpose.
7. DME Retention and Management
    a. All DME captured, recorded, or otherwise produced by the equipment is the sole property of the agency.
    b. All DME shall be handled in accordance with existing policy on data and records retention, where applicable.
    c. All DME shall be securely downloaded at the completion of each mission. The sUAS RPIC shall record information for each file that shall include the date, time, location, and case reference numbers or other mission identifiers and those agency personnel involved in mission.
    d. Agency employees shall not edit, alter, erase, duplicate, copy, share, or otherwise distribute DME in any manner without prior authorization from the appropriate designated personnel.

[3] In the United States, this is the Federal Aviation Administration (FAA). Agencies should determine if a Certification of Authorization (COA) must be obtained. A COA is a document issued by the FAA that authorizes public aircraft operations in the National Airspace System (NAS). A COA will also allow an sUAS civil operation to deviate from certain provisions of federal guidelines if the Administrator finds that the proposed operation can be safely conducted under the terms of that certificate of waiver.

e. All access to sUAS DME shall be specifically authorized by agency policy, and all access is to be audited to ensure that only authorized users are accessing the data and only for legitimate and authorized purposes.

f. Files should be securely stored in accordance with agency policy and appropriate records retention laws and retained no longer than necessary for purposes of training or for use in an investigation or prosecution.

8. Restrictions on the use of sUAS

a. The sUAS shall be deployed and used only to support official law enforcement and public safety missions.

b. The sUAS shall not be operated in an unsafe manner or in violation of regulations.

c. The sUAS shall not be equipped with weapons of any kind.[4]

D. Safety

1. The sUAS program shall have a safety program based on the principles of an aviation safety management system.[5]
2. All sUAS personnel shall receive appropriate safety training.

E. Maintenance

1. Each sUAS shall be inspected on a regular basis to determine if maintenance is necessary.
2. The sUAS program shall have a documented maintenance program to include manufacturer's recommendations.
3. The maintenance program shall describe who is authorized to perform maintenance on the sUAS and the required training for those personnel.
4. Records shall be kept of all maintenance performed on agency sUAS.

[4] In the United States, see FAA Reauthorization Act of 2018, Pub. L. No. 115-254 (2018).

[5] For instance, see the available FAA resources, "Aviation Safety (AVS) Programs & Initiatives," at https://www.faa.gov/about/office_org/headquarters_offices/avs/programs/.

Every effort has been made by the IACP Law Enforcement Policy Center staff and advisory board to ensure that this document incorporates the most current information and contemporary professional judgment on this issue. However, law enforcement administrators should be cautioned that the formulation of specific agency policies must take into account local political and community perspectives and customs, prerogatives, and demands; often divergent law enforcement strategies and philosophies; and the impact of varied agency resource capabilities, among other factors. Readers outside of the United States should note that, while this document promotes procedures reflective of a democratic society, its legal basis follows United States Supreme Court rulings and other federal laws and statutes. Law enforcement administrators should be cautioned that each law enforcement agency operates in a unique environment of court rulings, state laws, local ordinances, regulations, judicial and administrative decisions, and collective bargaining agreements that must be considered and should therefore consult their legal advisor before implementing any policy.

Concepts & Issues

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Small Unmanned Aircraft Systems

I. Introduction

A. Purpose of the Document

This paper is designed to accompany the Model Policy on Small Unmanned Aircraft Systems published by the IACP Law Enforcement Policy Center. This paper provides essential background material and supporting documentation to provide a greater understanding of the developmental philosophy and implementation requirements for public safety applications of small unmanned aircraft systems (sUAS) technology. This material will be of value to law enforcement executives in their efforts to tailor their sUAS policies to meet the requirements and circumstances of their communities and their law enforcement agencies.

B. Background

The use of aircraft in support of law enforcement operations has been an integral part of many agencies' public safety mission for years. The ability to provide an aerial view has been invaluable in search and rescue, tactical, emergency response, and investigative missions. However, because airborne assets, including helicopters and fixed wing aircraft, require extensive training, maintenance, and regulatory commitments, often only large agencies with sufficient resources can support these operations.

Recently, technological advances have allowed public safety agencies to consider the acquisition of sUAS to support their operations. These devices are small, lightweight, remotely piloted aircraft that can be equipped with cameras or other sensors and quickly deployed. The sUAS can provide many of the advantages of traditional aircraft, but at a fraction of the cost. In some cases, these aircraft can be deployed in situations where manned aircraft are unavailable or conditions could be prohibitively dangerous to pilots and persons on the ground.

Previously, there was little practical experience utilizing sUAS in law enforcement operations. Regulatory and privacy issues were the primary concern and stifled the growth of the use of this technology. However, in recent years, a regulatory framework and strategies to address community concerns about privacy have been established. This has facilitated rapid growth in the integration of sUAS into law enforcement operations and created a demand for guidance on how to develop and operate a law enforcement sUAS program.

C. Definitions

For the purpose of this discussion, the following definitions are used. An *unmanned aircraft* is one that is operated without direct human intervention from within or on the aircraft and may also be referred to as a remote piloted aircraft

or drone. A *small unmanned aircraft* is one that weighs less than 55 pounds, including all items that are onboard or otherwise attached to the aircraft. A *small unmanned aircraft system (sUAS)* includes an unmanned aircraft and its associated elements, including communication links and the components that control the unmanned aircraft that are required for the safe and efficient operation of the unmanned aircraft. A *remote pilot in command (RPIC)* is the individual with the final authority and responsibility for the use and safety of an sUAS operation. A *visual observer*, if used, is an sUAS flight crewmember designated by the RPIC to assist with the responsibility to identify and avoid other air traffic or objects in the air or on the ground. sUAS *flight crew members* include the RPIC, the person manipulating the flight controls of the sUAS, and any visual observers. The flight crew may also include other persons as appropriate or required to ensure safe operation of the aircraft.

For sUAS discussions in the United States, a *certificate of waiver or authorization (COA)* is a document issued by the Federal Aviation Administration (FAA) that authorizes public aircraft operations in the National Airspace System (NAS). A COA will also allow an sUAS civil operation to deviate from certain provisions of federal guidelines if the proposed operation can be safely conducted under the terms of that COA. NAS includes the common network of U.S. airspace, such as air navigation facilities, equipment, and services and airports or landing areas. *Part 107* refers to Part 107 of the Federal Aviation Regulations, the rules for non-hobbyist sUAS operations in the United States. These rules cover a broad spectrum of uses for drones weighing less than 55 pounds.[1]

Digital media evidence (DME) includes digital recording of images, sounds, and associated data that may be obtained by an sUAS.

D. Uses for sUAS

sUAS are invaluable tools in a number of operational applications. Because of their size, many sUAS can be carried in the trunk of a patrol car and quickly deployed at an incident. In the case of a train derailment, for instance, the sUAS can quickly deliver an aerial view of the scene, providing enhanced situational awareness and allowing responders to develop an effective response, while documenting the scene for subsequent investigation. In the case of a hazardous material spill, the sUAS might be deployed where it could be unsafe for human RPICs or first responders. An sUAS could also be equipped with sensors to detect the presence of hazardous materials.

Many agencies use an sUAS for photographing crime scenes or traffic crash reconstructions. The aerial view provides a unique perspective and the imagery can be employed for three-dimensional computer modeling of a scene. Similarly, aerial imaging of schools, public facilities, or critical infrastructure within an agency's jurisdiction could be used in training or developing response plans in case of a future incident.

Search and rescue missions are often cited by agencies considering acquisition of an sUAS, as they may be able to operate in terrain or conditions that are unsuitable for manned aircraft. In addition, thermal imaging sensors installed on sUAS have been employed to locate lost individuals.[2] An sUAS can also be quickly deployed to monitor evacuation routes in a natural disaster or traffic around a special event.

Because of their small size and relatively quiet operation, sUAS can also be useful in tactical situations, providing views of the scene to increase situational awareness and assist in planning a response to minimize risk to officers and the public. Video recordings from the aircraft can be valuable evidence in support of an investigation.

E. Classifications of sUAS

There are many different classifications of sUAS platforms that vary in size, flight endurance, and capabilities. An agency should evaluate what classification of sUAS platform best fits its operational needs to optimize the sUAS's

[1] Federal Aviation Administration, Operation and Certification of Small Unmanned Aircraft Systems, 14 CFR Parts 21, 43, 61, 91, 101, 107, 119, 133, and 183, https://www.faa.gov/uas/media/RIN_2120-AJ60_Clean_Signed.pdf.

[2] "Aerial Drone Locates Sask. Man Injured in Rollover Crash," CBC News, May 09, 2013, http://www.cbc.ca/news/canada/saskatchewan/aerial-drone-locates-sask-man-injured-in-rollover-crash-1.1398942.

ability to successfully complete missions and reduce any potential liabilities while in flight.

F. Technical Capabilities

sUAS have a variety of capabilities depending on the brand and type. When developing an sUAS program, an agency should consider its needs and the corresponding sUAS capabilities. Additionally, agencies should contemplate customizing their sUAS by purchasing additional accessories that extend sUAS capabilities. For instance, an agency that deals with frequent wildfires may want to accessorize its sUAS with infrared thermal heat detection in order to map the fire perimeter. sUAS capabilities may include, but are not limited to,

- infrared thermal heat detection;
- radio frequency detection;
- aerial imaging, still and video;
- mapping; and
- transportation of materials.

It is important for agencies to properly equip their sUAS program with systems that have the necessary capabilities to effectively assist in missions.

G. Mission Identification

The first step an agency should undertake to develop an sUAS program is to assess agency operations and determine how the sUAS will be employed to further the agency's mission. There are many types of sUAS available, and it is critical to identify the ways an agency will use the technology in order to identify the system that most closely meets the agency's operational needs. For instance, an agency that is frequently called upon for search and rescue missions may consider a small, hand-launched, fixed wing aircraft with longer flight endurance. Agencies looking for a quickly deployable aircraft to provide enhanced situational awareness in an emergency or documentation of a scene might find greater utility in a multi-rotor aircraft with a high degree of maneuverability, but shorter flight duration. Some agencies have successfully employed several types of sUAS, deploying the most appropriate tool for the task at hand. Taking the time to review agency operations and identify the sUAS that will provide the greatest functionality can help ensure the success of an sUAS initiative.

Finally, a development of a clearly defined mission statement is important for successful community engagement. The community must have a clear understanding of how the aircraft will be utilized in order for the agency to garner support for the program.

H. Privacy Concerns of sUAS Operations

Law enforcement agencies' deployment of sUAS has prompted concerns that their use could result in violations of privacy and civil liberties. Public attitudes toward law enforcement use of sUAS can vary widely from jurisdiction to jurisdiction. It is important for an agency to recognize these concerns and develop policies to help safeguard the privacy of the public they serve. While this document provides guidance regarding privacy issues, every community is unique, so public engagement is crucial to the success of the program. For these reasons, the range of issues and concerns related to privacy are far too complex and varied to discuss in depth in this paper. The following publications provide further discussions of the issues agencies must consider when introducing sUAS initiatives in their communities.

- The IACP published a *Technology Policy Framework* to help agencies develop consistent policies across all technology platforms while considering the impact of the technology on the community. The Framework lists nine universal principles to provide guidance during the development of policies for "technologies that can, or have the potential to monitor, capture, store, transmit and/or share data,

including audio, video, visual images, or other personally identifiable information which may include the time, date, and geographic location where the data were captured."[3]

- The Police Chief magazine article, *Unmanned Aircraft Systems: All the Boxes Checked, but Challenges Remain* is an overview of sUAS operations for law enforcement.[4]
- A thorough review of the legal and policy issues surrounding the public safety use of sUAS in the United States can be found in the Brookings Institution publication, *Drones and Aerial Surveillance, Considerations for Legislators*.[5]
- The FAA has developed a toolkit for law enforcement agencies considering developing an sUAS program.[6]

It is critical when developing an sUAS program, that an agency be transparent and fully inform the public of the agency's intended uses of the technology and policies governing its use. This is especially true for policies addressing the collection, retention, and use of recorded audio, video, photographs, or other data acquired through the use of sUAS. All data collected should be for official use only, and access to recorded material strictly monitored.

Search Warrants for sUAS in the United States. In the United States, law enforcement agencies must abide by the Fourth Amendment, which protects individuals from unreasonable search and seizure. Law enforcement agencies are required to obtain a search warrant when using sUAS for surveillance or during any mission that may violate the Fourth Amendment, among other civil liberties. However, other uses such as imaging of accidents, search and rescue, monitoring or fighting forest fires, and border security, can proceed without a warrant. In addition, individual states or jurisdictions may have additional restrictions or limitations on sUAS. Agencies should consult a legal advisor who is familiar with applicable laws and statutes when developing sUAS policy and procedures.

II. United States sUAS Regulatory Environment

In the United States, the FAA is responsible for ensuring the safe operation of any aircraft within the NAS. It is not the goal of this document to address all FAA regulations; some of the relevant issues that an agency must consider before introducing an sUAS into agency operations will be discussed.

Public aircraft are those owned and operated by the United States Government or the government of a state, or a political subdivision of a state. Status depends on the type of operation the aircraft is conducting at the time, rather than the aircraft itself. Civil aircraft are simply defined as anything other than public aircraft.

Beginning in the mid-2000s, the FAA regulated unmanned aircraft operations by using policy documents as it went through the process to develop actual regulations. That lengthy process, begun in 2008, ultimately led to Part 107–Small Unmanned Aircraft Systems, of the Federal Aviation Regulations in 2016. Prior to Part 107, public agencies that wanted to operate sUAS were required to obtain a Certificate of Authorization or Waiver (COA) from the FAA. The COA process was lengthy and required civil airman testing and, in some cases, certification, airworthiness declarations, and operational policies. While it appeared to be cumbersome, it did require public agencies to properly develop their sUAS programs in order to assure the safety of the national airspace system.

With Part 107, a public agency has a choice to either voluntarily operate as a civil aircraft, or continue to obtain a COA from the FAA and operate as a public aircraft. In addition, Part 107 establishes operational limitations, RPIC certification and responsibilities, and aircraft requirements. The ability to comply with these regulations is not difficult and enables many public safety applications. Though basic, it provides a framework for agencies to develop a program,

[3] *IACP Technology Policy Framework* (Alexandria, VA: 2014), 3, https://www.theiacp.org/sites/default/files/all/i-j/IACP%20Technology%20Policy%20Framework%20January%202014%20Final.pdf.

[4] Brett Davis and Don Roby, "Unmanned Aircraft Systems: All the Boxes Checked, but Challenges Remain," *The Police Chief* 80 (June 2013): 60–63.

[5] Gregory McNeal, *Drones and Aerial Surveillance: Considerations for Legislators* (Washington, DC: The Brookings Institution, Center for Technology Innovation, November 2014), http://www.brookings.edu/research/reports2/2014/11/drones-and-aerial-surveillance.

[6] Federal Aviation Administration. Public Safety and Law Enforcement Toolkit. https://www.faa.gov/uas/public_safety_gov/public_safety_toolkit/.

especially those just starting the process. As agencies gain experience and wish to expand to more complex operations, there is a process to get a waiver from most of the flight restrictions if the agency can demonstrate that it can be done safely. Finally, by complying with civil sUAS regulations, the agency provides assurance to its governing body and community, which may be skeptical of the agency's ability to safely operate sUAS, that it is complying with federal regulations for sUAS operations.

In addition to federal regulations, some state and local governments have introduced legislation that could impact law enforcement operation of the technology. It is important for an agency to fully understand all applicable laws governing the use of sUAS and the data collected through their use.

In countries other than the United States, agencies deploying and operating unmanned aircraft should understand and follow the regulations established by the relevant authority in their jurisdictions.

III. PROCEDURES

A. Program Administration[7]

Supervisory personnel should ensure that sUAS are being used in accordance with agency policy, which should include clear definitions of authorized sUAS missions. sUAS should be used only to support agency operations, such as situational awareness, search and rescue, tactical deployment, and incident scene documentation. Any complaints alleging inappropriate or unlawful use of an sUAS should be handled in accordance with established agency protocol for internal investigations.

Additionally, if a complaint alleges a violation of civil rights by the use of an sUAS, it should be reported directly to the chief executive and result in a formal, documented internal investigation. When feasible, agencies should take any necessary measures to obtain the appropriate documentation prior to a mission that may violate an individual's civil liberties in order to avoid a civil suit against the agency. To instill trust between the law enforcement agency and community, it is crucial that the agency remains upfront and honest about complaints regarding the violation of civil liberties.

To ensure the safety of RPICs, flight crewmembers, visual observers, and any other impacted parties during the use of an sUAS, the chief executive should establish a team of personnel with the required credentials to operate sUAS safely and efficiently. Safety should be the main priority of an sUAS program. Therefore, staying updated with certifications, maintenance regulations, and training is especially important. Supervisory personnel should audit flight documentation on a regular basis, such as monthly, to gain knowledge on how to better the agency's sUAS program. Audits should include a summary of items to include, but not limited to, the number of missions/uses, appropriateness of uses, evaluation of the effectiveness of the UAS, safety concerns, equipment concerns, and flight time, to include review of flight logs or data from flight time encounters. The information gathered from audits should then be shared openly with the community.

While only designated individuals should be directly involved with the operation of sUAS, all agency personnel should be familiar with the agency's policy and procedures for the sUAS program.

B. Personnel Qualifications and Training

sUAS should be operated only by properly trained and authorized personnel. Agency policy documents should clearly state minimum initial and recurrent training requirements and timelines for all sUAS crewmembers including RPICs, visual observers, and sensor systems operators. Training should be thoroughly documented and archived in compliance with existing agency policies and procedures. Agencies are strongly encouraged to assimilate the appropriate national aviation authority guidelines and/or RPIC licensing requirements, such as the Federal Aviation

[7] Note that some agencies may choose to contract with an external sUAS operations provider to accomplish the duties outlined in this document.

Administration Remote Pilot Certificate, into their requirements. RPICs should have their pilot certificate in possession whenever they operate agency sUAS. In situations where an RPIC's certification lapses, the RPIC should be considered out-of-service until a current certification can be obtained.

Whenever feasible, original equipment manufacturer (OEM) initial flight training should be provided to all crew members. When OEM training is not feasible, agencies should consider the use of other vendor training or carefully develop a comprehensive in-house initial training program. In-house training programs should include course outlines, both ground and flight minimum training hours, and written and practical skills tests.

Recurrent training should be conducted on a regular basis, such as monthly or quarterly, but no less frequently than biannually. Agencies should consider recurrent training that is scenario-based supplemented by regularly briefings on policy, technology, privacy, and search and seizure case law updates.

In addition to sUAS unit crewmember training, agencies should provide sUAS familiarization training to all agency personnel. This training may consist of, at a minimum, sUAS capabilities and limitations, authorized uses, privacy, and procedures for requesting sUAS support.

C. Operational Procedures

Prior to initiating an sUAS program, agencies should establish specific policies and procedures that dictate the use of sUAS. First and foremost, all agencies must abide by the requirements of the applicable national aviation authority, such as the FAA. National aviation regulations may include, but are not limited to, registering a vehicle, obtaining a COA or proper documentation, and completing flight training.

Agency policy should clearly indicate the appropriate and authorized uses of sUAS and clearly delineate any prohibitions. For instance, potential civil rights implications should be considered prior to any deployment. The agency should also consider whether the public will be notified prior to sUAS deployment and, if so, the mechanism for broadcasting this information. The agency public information officer (PIO) may be identified as the appropriate individual for providing guidance in this area.

In addition, each agency should decide who will serve as sUAS program supervisory personnel. Supervisory personnel should have the ultimate authority over all deployments and uses of sUAS to ensure that officers equipped with sUAS devices utilize them in accordance with policy and procedures. However, especially for larger agencies, it may be impractical for a supervisor to be present during all sUAS deployments.

Agencies should accurately document all sUAS deployments through the use of forms or databases for auditing purposes. This documentation should include the following information:

- the reason for the flight;
- the time, date, and location of the flight;
- the names of the supervisor approving the deployment and the staff assigned; and
- a summary of the activities covered, actions taken, and outcomes from the deployment.

D. DME Retention and Management

When developing an sUAS program, one of the primary considerations should be the storage and retention of DME. sUAS DME should be maintained in a secure manner for a specified amount of time, as outlined in existing agency policy on data retention, management, and storage. This policy should be developed in conjunction with legal counsel and should take into consideration all applicable laws governing data. For instance, retention policies may state that all recordings related to any criminal proceeding; claim filed; pending litigation; or administrative investigation, to include complaints, should be

preserved until that matter is resolved or in accordance with applicable law or policy, whichever time frame may be greater.

Following a mission, all DME should be downloaded from the sUAS and properly stored. Additional information that should be collected may include the date, time, location; case reference numbers or other mission identifiers; and the identity of agency personnel involved in the mission. Agency policy should specifically address that DME should not be edited, altered, erased, duplicated, copied, shared, or otherwise distributed in any manner without prior authorization from the appropriate designated personnel. All access to sUAS DME should be specifically authorized by agency policy, and all access should be audited to ensure that only authorized users are accessing the data and only for legitimate and authorized purposes.

E. Restrictions on sUAS Use

sUAS provide law enforcement agencies with the capacity to be more productive; however, agencies should implement restrictions to avoid misuse or unlawful practices. When developing policy, agencies should clearly state that sUAS should be deployed and used only to support official law enforcement and public safety missions, and that under no other circumstances should an sUAS be deployed for recreational use. In addition, sUAS should not be operated in an unsafe manner or in violation of regulations. In addition, sUAS should never be weaponized. Agencies in the United States should be familiar with the FAA Reauthorization Act of 2018, which states "[u]nless authorized by the Administrator, a person may not operate an unmanned aircraft or unmanned aircraft system that is equipped or armed with a dangerous weapon."[8]

F. Safety

As with all agency activities, safety plays an important role in ensuring reduction in injuries, heightened loss prevention, mitigated civil and criminal liability, and enhanced public perception. Agency sUAS policies should include an emphasis on safety and conform to safety management systems (SMS) principles. The four main SMS principles, policy, risk management, assurance, and promotion, help to maintain a safe work environment while operating aircraft.[9] Safety should be an important component of all aspects of initial and recurrent training. Safety violations should be addressed in a constructive, nonpunitive manner.

An agency's sUAS policies and procedures should include specific information related to safety incident and accident reporting. These should be compliant with relevant national aviation authority sUAS accident reporting regulations.[10]

G. Maintenance

Traditional strict maintenance regulations commonly pertaining to manned aircraft operations are often not mirrored in sUAS specific regulations. Many sUAS scheduled maintenance regulations comply with the manufacturer, so different sUAS may vary in regulations and schedules to perform maintenance inspections. Therefore, each agency has the freedom to create its own maintenance regulations and schedules. However, agency policy should specify that sUAS should be regularly inspected to determine if maintenance is required.

Agency sUAS maintenance regulations could be deemed as not urgent or unnecessary compared to manned aircraft because there are no RPICs or passengers on the aircraft in imminent danger if the sUAS functions fail. Consequently, agencies may be inclined to neglect this important aspect of sUAS operations. Establishing a formalized sUAS maintenance program will enhance safety and assist in mitigating liability by ensuring that maintenance discrepancies are recognized, documented, and properly addressed.

Agency sUAS policy should include requirements to document all maintenance issues and subsequent repairs

[8] See H.R.302 - FAA Reauthorization Act of 2018, Section 363 – Prohibition Regarding Weapons

[9] ICAO, Safety Management Manual, 2d ed. (Montréal, QC: International Civil Aviation Organization, 2009), https://www.icao.int/safety/fsix/Library/DOC_9859_FULL_EN.pdf.

[10] For instance, see 14 CFR §107.9.

utilizing a specific form or procedure. All maintenance and software/firmware should be recorded in a dedicated logbook, whether electronic or paper. Guidance should be provided on what qualifications are required to conduct specific repairs, for example, "RPIC may replace rotor blades and update firmware and software on sUAS."

IV. Conclusion

When implementing an sUAS program, an agency should consider various items, to include policy development. It is essential that the agency consider its own operational needs to choose the type of sUAS with the capabilities that best suits agency functions. Personnel who operate sUAS should be properly trained with the necessary certifications, and designated procedures should be established to ensure safety and maintenance regulations are being followed. In addition, the policy and accompanying procedures that are formulated must also address how sUAS will be used, keeping in mind sUAS restrictions and statues that protect individuals' privacy and civil liberties. Throughout this process, legal counsel should be consulted and feedback from the community should be included. Agencies should review and evaluate their established sUAS programs on a systematic basis, to include policy review and audit.

Need to Know …

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Small Unmanned Aircraft Systems

Small unmanned aircraft systems (sUAS) may be used by law enforcement agencies as low-cost alternatives to traditional aviation programs. sUAS can be utilized for a variety of purposes, to include providing situational awareness; participating in search and rescue missions; and documenting incident scenes.

- An **unmanned aircraft** is one that is operated without direct human intervention from within or on the aircraft and may also be referred to as a remote piloted aircraft or drone. A small unmanned aircraft is one that weighs less than 55 pounds, including all items that are onboard or otherwise attached to the aircraft.
- There are many different classifications of sUAS platforms that vary in size, flight endurance, and **capabilities**. When developing an sUAS program, an agency should consider its needs and the corresponding sUAS capabilities.
- sUAS should be deployed only for **public safety missions**, in compliance with applicable laws, and only by trained and authorized personnel.
- Laws governing sUAS use vary greatly. Therefore, when developing sUAS policy, agencies should be aware of pertinent local laws and any established **national aviation authority** regulations.
- Agencies should conduct a **privacy impact assessment** prior to implementing an sUAS program. In addition, information should be provided to the community explaining the agency's proposed uses of the technology and the protocols in place to protect individual civil rights.
- If the sUAS will be used to collect evidence of criminal wrongdoing and will be used in a manner that may intrude upon reasonable expectations of privacy, a **search warrant** should be obtained prior to conducting the flight.
- Any **complaints** alleging inappropriate or unlawful use of an sUAS should be handled in accordance with established agency protocol for internal investigations.
- **Information** regarding all sUAS missions should be collected. This information should be regularly reviewed to determine if sUAS are being used in accordance with established policies and procedures.
- Agencies should consider whether the public will be **notified** prior to sUAS deployment and, if so, the mechanism for broadcasting this information.

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