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 the model policy for most state, local, and tribal public safety applications of sUAS technology. This material will be of value to law enforcement executives in their efforts to tailor the model to 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 airborne operations.

Recently, technological advances have allowed public safety agencies to consider the acquisition of small unmanned aircraft systems (sUAS) to support their operations. These devices are small, lightweight, remotely controlled 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.

While government regulations are still in development, many public safety agencies may find sUAS to be a valuable addition to their operations. The advantages and special policy considerations of sUAS operations will be discussed further in this document.

The use of large unmanned aircraft by the military and some federal enforcement initiatives has been widely reported in the media. However, such systems are generally unsuited for the purpose and applications of state, local, and tribal public safety agencies. This paper, and the accompanying Model Policy, are limited to the discussion of small unmanned aircraft systems, defined by the Federal Aviation Administration (FAA) as 55 pounds or less.

C. Uses for sUAS

 Agencies currently using sUAS have found them to be 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 an overturned tank truck, 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 pilots 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 or accident scenes. Unlike a manned helicopter, a small, battery-operated multi-rotor unmanned aircraft can hover above a scene with minimal disturbance from the downward-forced air from the rotors. The aerial view provides a unique perspective than can be employed for computer modeling and subsequent reconstruction 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. In a recent case in Canada, a thermal imaging sensor on an sUAS was employed to find an injured driver who wandered away from an accident in a remote area. An sUAS may be able to operate in terrain or conditions that are unsuitable for manned aircraft. They can be quickly deployed to monitor evacuation routes in a natural disaster or traffic around a special event. Some agencies have considered the use of an sUAS to provide an emergency communications link when other systems are down because of power outages or the loss of communication towers.

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.

II. ADMINISTRATIVE AND REGULATORY RESTRICTIONS ON sUAS

The usefulness of sUAS has been clearly demonstrated; however, their utility is limited by FAA rules governing their use. The FAA is responsible for ensuring the safe operation of any aircraft within the National Airspace System (NAS). On February 14, 2012, Congress passed the FAA Modernization and Reform Act of 2012 that included a provision requiring the FAA to “…develop a comprehensive plan to safely accelerate the integration of civil unmanned aircraft systems into the national airspace system.” The legislation established a deadline of September 30, 2015, to complete the plan. This document will not attempt to address all FAA regulations, but will briefly discuss some of the relevant issues that an agency must consider before introducing an sUAS into agency operations.

The very first step an agency should undertake is an assessment of agency operations and determination of 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 in remote areas may consider a small, hand-launched, fixed wing aircraft with a long flight duration. 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.

All law enforcement entities are required to obtain a Certificate of Authorization (COA) from the FAA before undertaking any flight operations. The FAA Unmanned Aircraft Systems Integration Office (UASIO) has been established to assist agencies and organizations to navigate the COA process. It is recommended that an agency contact the UASIO early in the process to determine the requirements of a COA. Each agency’s COA will be unique to the jurisdiction to which it will apply. The location of airports (including many small general aviation facilities), congested urban areas, and geography could all require special operating rules; for instance, in some cases multiple COAs may be required with stricter altitude restrictions within a certain proximity of an airfield than in other portions of the jurisdiction. A COA may require as many as three operators for sUAS operations, with a pilot who is required to maintain visual contact with the aircraft at all times, a spotter to look out for other aircraft, and a dedicated camera operator.

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


3 A full discussion of sUAS regulations for public safety and resources for establishing an sUAS program can be found on the FAA web site, http://www.faa.gov.
A. Privacy Concerns of sUAS Operations

The potential deployment of sUAS by law enforcement agencies has prompted concerns that their use could result in violations of privacy and civil liberties. Public attitudes toward law enforcement use of unmanned aircraft 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. The Model Policy provides guidance that specifically addresses privacy issues, but every community is unique, so public engagement is crucial to the success of the program; for these reasons, the range of issues and concerns are far too complex and varied to discuss in depth in this paper. The publications below will provide further discussion of the issues an agency must consider when introducing sUAS initiatives in their communities.

The IACP has developed a document, IACP 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 principals 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.”

When developing an sUAS policy, an agency should be transparent and fully inform the public of the agency’s intended uses of the technology. This is especially true for policies governing the 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.

For further information, the Police Chief magazine article, Unmanned Aircraft Systems: All the Boxes Checked, but Challenges Remain is an overview of sUAS operations for law enforcement. A thorough review of the legal and policy issues surrounding the public safety use of sUAS can be found in the Brookings Institution publication, Drones and Aerial Surveillance, Considerations for Legislators.

B. Procedures for Using sUAS

sUAS should be operated only by trained and authorized personnel, including all crew members. All flights should be approved by the appropriate authority and should be for a legitimate public safety mission, training, or demonstration purposes as defined by policy. Proper training of all personnel in operation as well as policy is critical for the success of a program.

All flights should be documented, accounting for all flight time of the sUAS. A reporting protocol specifically designed for sUAS operations should be developed and followed. An authorized supervisor should routinely audit all flight documentation, and any unauthorized use of the SUAS should result in strict accountability.

Except in instances when the safety of officers, the public, or an investigation could be compromised, agencies deploying sUAS in populated areas should consider informing the public, possibly employing Reverse 9-1-1, social media, email alerts, or even patrol car public address systems. This will provide a level of safety should the aircraft make an uncontrolled landing while helping to minimize public concern over the presence of the aircraft.

C. Record Control and Management

Reference has been made previously to the need for control and management of sUAS recordings to ensure the integrity of the recordings, secure the chain of custody where information of evidentiary value is obtained, and use recordings to their fullest advantage for training and other purposes. In order to accomplish these ends, officers and their supervisors should refer to their policies on records control, retention, and management.

D. Technical Capabilities

The use of sUAS by law enforcement is still in its infancy. Technology has brought considerable enhancements to law enforcement’s capabilities. It has also introduced significant complexities. The use of such emerging technology by law enforcement has brought new concerns into aspects of search and seizure, privacy rights, and government data collection. Any agency currently using or considering the introduction of sUAS into its toolbox should remain cognizant of emerging case law. It is very likely the courts will be adding clarity to this complex issue in the near future.


E. References

Information regarding technical capabilities and advancement in sUAS can be found through the following:

- Airborne Law Enforcement Association
  www.alea.org
- Association for Unmanned Vehicle Systems International
  www.auvsi.org
- Federal Aviation Administration
  www.faa.gov

Acknowledgment

This document was developed by the IACP Law Enforcement Policy Center in cooperation with the IACP Aviation Committee.

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 no “model” policy can meet all the needs of any given law enforcement agency. Each law enforcement agency operates in a unique environment of federal court rulings, state laws, local ordinances, regulations, judicial and administrative decisions and collective bargaining agreements that must be considered. In addition, 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.

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