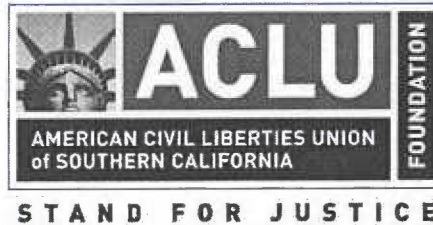


Council File: 16-0410

#3



Date: 6/20/17
Submitted in PS Committee
Council File No: 16-0410
Item No.: 3
Deputy: public

June 16, 2017

Board of Fire Commissioners
President Delia Ibarra
Andrew Glazier
Jimmy H. Hara
Jimmie Woods-Gray
Rebecca Ninburg
City Hall East
200 N. Main Street, Room 1820
Los Angeles, CA 90012

Via facsimile: 213-978-3814

Dear Commissioners,

On June 1, 2017, the Los Angeles Fire Department (“LAFD” or “Department”) submitted to the Board of Fire Commissioners (“the Board”) an outline of its proposed policy governing the use of unmanned aerial systems (“drones”). This proposal specifically addressed five issues that arise in the context of aerial surveillance identified in a 2011 report prepared by ACLU National,¹ and the Board requested that the LAFD solicit additional input from the ACLU of Southern California (ACLU) on the privacy implications of its proposed policy. The ACLU appreciates the LAFD’s efforts to adopt a clear policy imposing strict limits on the use of this technology before it is purchased or deployed, and its attempts to ensure that the final policy is a product of a transparent process overseen by the Board, City Council, and the public.

While LAFD has proposed to use drones only in limited circumstances and has specifically disclaimed their use for surveillance purposes or on behalf of law enforcement agencies, the use of drones to transmit and collect video nonetheless directly implicates serious privacy concerns that the current draft policy does not sufficiently address. Specifically, the LAFD policy as drafted fails to impose limits or adopt rules governing the retention and use of information obtained through the deployment of drones. It also neglects to include any provisions to audit or otherwise monitor the use of drones to ensure that it conforms to the limited approved uses, and it does not include any mechanism to safeguard against future amendments to the policy to expand its scope absent further public deliberation. The ACLU recommends that the Department adopt revisions to its proposed drone policy that would limit the potential for the misuse of information obtained through LAFD drones and minimize the threat to the public’s right to privacy.

¹ *Protecting Privacy from Aerial Surveillance: Recommendations for Government Use of Drone Aircraft*. ACLU (December 2011) available at <https://www.aclu.org/files/assets/protectingprivacyfromaerialsurveillance.pdf>.

Executive Director Hector O. Villagra

Chair Shari Leinwand **Vice Chair** Susan Adelman **Vice Chair** Sherry Frumkin

Chairs Emeriti Danny Goldberg Allan K. Jonas* Burt Lancaster* Irving Lichtenstein, MD* Jarl Mohn Laurie Ostrow* Stanley K. Sheinbaum* Stephen Rohde

*deceased

The Proposed LAFD Policy

The ACLU has reviewed two documents that reflect the drone policy currently proposed by the LAFD—an Unmanned Aerial Systems Report dated May 17, 2017 (“Report”)² that outlines the general principles of the LAFD drone policy, and a draft policy dated March 21, 2016 (“Draft Policy”)³ that includes the specific proposed language.³ This letter will respond to both documents as reflecting the LAFD’s proposed drone policy.

1. The policy fails to specify the intended purposes for the LAFD’s drones.

The LAFD policy establishes some important limits on the use of its drones, but it does not clearly identify all of the purposes for which it will be deployed. The LAFD has committed to using drones only for limited purposes, and the Draft Policy specifically states that the drones “**will not** be used to monitor or provide surveillance for law enforcement purposes,” but will provide “greater situational awareness” to both firefighters and law enforcement through deployment in “response and mitigation of **emergent** situations and incident types **unrelated** to citizen monitoring or surveillance.” (Draft Policy, p. 3 (emphases in original)). It also states that the LAFD drones “will only be used for Fire Department related purposes only, and not at the request of any other department or agency.” (Id.)

Although the above disclaims any use of drones for law enforcement or surveillance purposes, the Draft Policy does not provide an exhaustive list of authorized uses. Instead, it identifies exemplar uses, stating that a drone “is an operational tool to be used in a variety of scenarios which can include in priority order: Training and related video production, Tactical Operation Pre-planning, hazard and damage assessment; hazardous material identification, confined area search operations, i.e. ‘river rescue’ and ‘hiker’ incidents.” (Draft Policy, p. 3). The Draft Policy language appears to anticipate uses beyond those specified, but fails to articulate what those uses may be, or even identify the general categories under which such uses may fall. The Report similarly notes only that drone usage “includ[es], but [is] not limited to” the same uses identified in the Draft Policy.

For the public and oversight bodies to meaningfully evaluate the impact of surveillance technology, it is necessary to clearly articulate the ways in which it will be used. The LAFD’s policy fails to sufficiently do so. It is commendable that it expressly refuses to permit its drones to be used for intentional surveillance or other law enforcement purposes. Unfortunately, any use of drones potentially implicates the privacy interests of those in its deployment zone. Without a clear statement of the drones’ intended uses, the Board and City Council cannot determine whether these additional uses are necessary and outweigh their potential burden on the public, nor can the public meaningfully voice their opinion or seek to protect its own right to privacy. The absence of clear limits on the use of these drones also prevents effective oversight over the LAFD’s drone program to determine if it remains within the limits of approved use.

² This Report is attached to this letter as Attachment A.

³ This Draft Policy is attached to this letter as Attachment B.



STAND FOR JUSTICE

The ACLU recommends that the LAFD policy specifically state that the drones may not be lent to any other agency in addition to the current language that prohibits the LAFD's use of the drone for other agencies' purposes. It should also formally identify with as much specificity as possible all intended uses of the drones so that the program may be fully evaluated by all of the necessary stakeholders.

2. *The policy fails to include rules governing the retention, use, and access to footage.*

Neither the Report nor Draft Policy present any clear guidance on how footage obtained through drones will be used or who may be given access and under what conditions. The Report states that captured footage "will be retained by the Department custodian of records." (Report, p. 6) The Draft Policy reiterates that photographic or video material shall be surrendered to the custodian of records within the Arson/Counter Terrorism Section or the In Service Training Section within 12 hours of its creation. However, the policy does not include any limits on the length of time for which the information may be retained, or any criteria to determine whether certain footage should not be retained. The only mention of any anticipated use of this footage is in the Report, which states that it "will be utilized on social media, increasing transparency." (Report, p. 6). This intended use is not clarified, or even mentioned, in the Draft Policy.

Although LAFD does not intend to use its drones for intentional surveillance, whenever drones are deployed in areas that people live or frequent, the resultant footage will inevitably capture the public. In addition to individuals directly involved in critical incidents to which the Department is responding, drones—intentionally or unintentionally—may record individuals in private settings or unaware that they are being recorded. While publication on the LAFD website of footage of Department personnel involved in trainings and critical incidents may be in the public interest, footage captured by a drone in flight will likely not be limited to observations of Department personnel. Any policy governing the use of drones must therefore include a retention and use policy that protects the privacy interests of those ultimately captured by drone footage that is balanced against the competing but equally important public concern for transparency. The need to safeguard against indiscriminate, unobscured publication of all captured footage is therefore accompanied by an equally strong view that requests under the California Public Records Act⁴ for data from surveillance technology should benefit from the traditional presumption of disclosure.

The ACLU recommends that the LAFD amend its policy to include a retention policy that authorizes retaining footage only where there is a specific, identified Department need. It should also specify that footage depicting non-Department personnel should not be displayed on the Department website when the public interest served by not making this footage public outweighs the public's interest in publication. This balancing mirrors the test agencies are already required to complete to justify withholding of otherwise public records under Section 6255(a), and reinforces the need for agencies to consider the public's interest—not only its own—prior to

⁴ Cal. Gov. Code Sec. 6250 *et seq.*



STAND FOR JUSTICE

publicizing obtained drone footage. Any sensitive footage⁵ should also be obscured before being released to the public in any form. Also, although the LAFD drone footage is not captured for the purpose of surveillance, the policy should specify that it may not be merged with other surveillance databases, or retained solely for the purpose of mining the data at a later time by the LAFD or other agencies.

3. *The policy includes no mechanism for oversight or accountability.*

The Draft Policy includes direction to the LAFD to “provide quarterly reports on the LAFD UAS activity to the Board of Fire Commissioners.” (Draft Policy, p. 7). However, neither the Draft Policy nor the Report establish any system for enforcing its terms or limitations. To be meaningful, any policy must establish open audits and proper oversight to identify and address any abuse or use of drones outside the policy.

The ACLU recommend that LAFD amend its policy to include an audit mechanism that requires regular review and reporting of not just LAFD activity, but its compliance with the requirements of the Department’s policy and the effectiveness of LAFD’s drone policy. This is most effectively accomplished through the use of an independent monitor to track the LAFD’s use of drones including whether the original rationale for deployment is met, whether the Department is complying with its stated policies and approved purposes, and whether the drones program represents a worthwhile public expenditure.

4. *The policy does not require that significant amendments are made through further public process.*

The Report states that the policy will “[o]nly be enacted after thoughtful consideration of and approval by the Department’s civilian oversight . . . and the Mayor and City Council, including any relevant committees.” (Report, p. 6). This process is a critical prerequisite for a policy governing the use of surveillance technology. It is equally important, however, to ensure that amendments to this policy follow the same process to protect against “mission creep” and the potential that drones may be used for broader purposes than originally approved by this public process.

To that end, the ACLU recommends that the LAFD amend its policy to require that any substantive changes in the LAFD’s use of drones, or the collection, retention, or access to such information occur subject to the approval of the Board and City Council.

⁵ Sensitive footage includes, but is not limited to, photos or video in which an individual’s genitalia are exposed, or graphic depiction of an individual’s injuries, particularly where the graphic footage is unrelated to the public’s ability to understand or evaluate the LAFD’s conduct.



STAND FOR JUSTICE

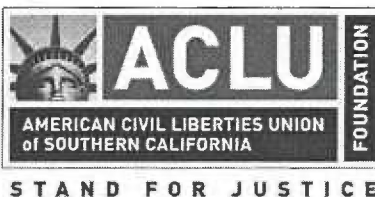
Thank you for your attention to this important matter. You may also wish to refer to the 2016 guide created by the ACLU of California—*Making Smart Decisions About Surveillance: A Guide for Community Transparency, Accountability & Oversight*.⁶—for further detail regarding how communities and agencies nationwide have grappled with issues related to emerging forms of surveillance technology, including drones. If you have any questions, please contact Melanie Ochoa at (213) 977-9500 x233.

Sincerely,

Melanie Ochoa
Staff Attorney for Criminal Justice and Police Practices

cc: Fire Chief Ralph M. Terrazas, Battalion Chief Richard Fields

⁶ Available at https://www.aclunc.org/docs/20160325-making_smart_decisions_about_surveillance.pdf.



Attachment A

June 6, 2017

LOS ANGELES FIRE DEPARTMENT




RALPH M. TERRAZAS
FIRE CHIEF

May 17, 2017

BOARD OF FIRE COMMISSIONERS
FILE NO. 17-064

TO: Board of Fire Commissioners

FROM:  Ralph M. Terrazas, Fire Chief

SUBJECT: UNMANNED AERIAL SYSTEMS REPORT

FINAL ACTION: Approved Approved w/Corrections Withdrawn
 Denied Received & Filed Other

SUMMARY

On April 8, 2016, the Los Angeles City Council asked the Los Angeles Fire Department ("Department") to "report on the feasibility of utilizing drones to assess significant incidents, on how drones could be used for information gathering during large fires, and what issues the use of drones by the LAFD may raise (Council File: 16-0410)." Since then, the Department has studied the potential of both acquiring federal authorization to utilize drones, or unmanned aerial systems (UAS), and potential departmental policies for such usage.

RECOMMENDATIONS

That the Board:

1. Allow the Department to apply for participation in the process to obtain a certificate of authorization to operate UAS as part of its initial action hazard mitigation and response matrix.
2. Formalize operations within the Department to ensure full functionality and operational effectiveness relative to UAS.

OVERVIEW

The Department is seeking to be one of the first major metropolitan departments to obtain a Certificate of Waiver/Authorization (COA) to operate UAS as part of its initial action hazard mitigation and response matrix. After the City Council asked to study the feasibility of using UAS, the Department formed a committee consisting of members representing functions that would oversee usage, including: Operations, Fire Prevention and Public Safety, Training and Air Operations.

The committee evaluated the feasibility of a Department-wide UAS program by studying industry leaders, such as the Austin Fire Department and their collaboration with the Austin Department of Emergency Management, and the Ventura County Sheriff's Department, the latter of which is the only public service agency with a national COA from the Federal Aviation Administration (FAA). The committee also consulted with the Air Support Division of the Los Angeles Police Department, researching the legal and regulatory statutes including potential financial and operational factors. The result is a comprehensive report that includes: 1) the FAA certification process and requirements, 2) justification and benefit analysis, and 3) proposed Department policy, operational guidelines, training and certification processes. Implementation of the administrative and operational proposals contained in this document, are solely contingent upon FAA review and approval.

For Departmental purposes, any UAS that may be used by Department personnel are operational tools to be used in a variety of scenarios, including, but not limited to operational pre-planning, hazard and damage assessment, hazardous material identifications, confined space search operations and victim rescue, i.e. "river rescue" and "hiker" incidents. Procuring a COA from the FAA would allow the Department to operate a UAS but only in the most restrictive sense.

The UAS **will not** be used to monitor or provide surveillance for law enforcement purposes. A UAS program can also be used to provide greater training and used for situational awareness thereby enhancing firefighter and police safety during response and mitigation of emergent situations or surveillance. The Department UAS will only be operated by trained, certified and licensed members in both operational and observational capacities. The six UAS and all related support equipment will be kept as follows: (1) at each geographic Bureau office in the charge of the Training Support Specialists (TSS) for the Operations South and West Bureaus; stored on the Command 22 and 42 suburban for the Central and Valley Bureaus, and (2) assigned to the In-Service Training Section (ISTS).

PROCEDURE

Once approved, the process for deploying UAS would be:

1. Upon request, the UAS flight team (operator and an observer) will deploy to the designated location within the Department fire protection area as well as its surrounding mutual aid response areas.
2. The UAS Operator along with UAS Observer will determine if safe operation of the UAS can be accomplished as requested. The decision will be contingent upon several factors to include physical features of the area, obstructions to flight, terrain, and the weather.
3. The Incident Commander and/or UAS Operator will coordinate with the LAFD Air Operations Section Commander or Chief Pilot for final clearance for all UAS flight operations.

QUALIFICATIONS

The following qualifications are both federally and locally recognized as required for all UAS operators:

1. Department UAS operators must have a FAA Part 107 Small Unmanned Aircraft Systems (sUAS) ALC-451 ("Part 107 license").
2. The operator must have a minimum of two hours of knowledge-based training and a minimum of four hours of skill based training conducted by a designated Department instructor followed by ten hours of supervised in-flight operation.
3. UAS operators must maintain their Part 107 license and maintain flight logs and all necessary records to meet the FAA's requirements. UAS operators will also be required to open, complete and maintain a taskbook specific to specialized flight operations; i.e. HazMat, Urban Search and Rescue or confined space flight.

DUTIES

The UAS Operator will function as team leader and the operator of the UAS. The operator will ultimately be responsible for the operation and solely responsible for input of commands of the UAS during flight. The Operator will also be responsible for UAS assembly, flight preparation, post flight procedures, and UAS disassembly/storage procedures. The Operator will be responsible for documenting all UAS flights. UAS Safety (Observer) will visually ensure that the UAS is operating in a safe area and in a safe manner. UAS Safety will also ensure that the Operator is not interrupted during flight. UAS Data Technician will be utilized anytime the documentation captured by the UAS needs to be provided in "real time" or in the initial action phase of an incident.

SAFETY

Safety of the UAS is the responsibility of the UAS Pilot and UAS Observer, except as required by the mission. UAS Pilot and UAS Observer will ensure that no persons are in the vicinity of the UAS during operations to avoid flying over non-essential persons or vehicles. Under no circumstances shall the UAS be utilized when LAFD helicopters are engaged, over large gatherings of people or operated from a moving vehicle. Except for the purpose of training, only personnel who meet the requirements set forth by the FAA and in the QUALIFICATIONS section of this document will be permitted to act as a UAS Pilot.

UAS Pilot will comply with the UAS User Manual, which will be provided with each UAS, outlining the warnings, limitations, and/or checklists at all times unless an emergency dictates otherwise. The Department shall be guided by FAA guidelines when the UAS is to be deployed. All UAS operations will be conducted in Day/Visual Meteorological Conditions. UAS night operations must be specifically requested and authorized.

OPERATIONS

The UAS will be flown in accordance with all FAA guidelines and manufacturer specification, and in consideration of the following:

1. Care shall be taken in the operation of the UAS to avoid flying over persons and property that could result in injury or damage whenever possible.
2. Lost Link response shall be set prior to flight.
3. The UAS shall not be operated at altitudes greater than 400 feet or at speeds greater than 50 knots (57mph).
4. For all operations, UAS Safety shall maintain a visual observation on the UAS and the UAS operator during flight.

INCIDENTS/ACCIDENTS

During an incident/accident, efforts will be focused on:

1. Minimizing risk to life
2. Care for the injured
3. Protect property

In the event of a UAS incident accident, the following notifications will be made:

1. Fire/EMS personnel
2. LAFD or LAPD Air Operations
3. Appropriate Bureau commander
4. Investigation: A full investigation, under the direction of LAFD Air Operations, will be conducted in the event of a UAS incident accident or failure
5. Any damage to the UAS or its support equipment shall be immediately reported Through Channels to the Deputy Chief of the Training and Support Bureau

ARCHIVAL

1. Archive and catalog, then surrender any recorded photo/video material, within 12 hours, to the LAFD custodian of records (Arson section).
2. Recorded photo/video material not related to an LAFD response; i.e. planned training event, shall be surrendered, within 12 hours, to ISTS and the Community Liaison Office.

COST

The Los Angeles Fire Department Foundation has graciously agreed to fund the primary operating costs associated with acquiring new equipment and associated technological needs.

While there could be significant cost savings utilizing a UAV at incidents, it should be noted that any program using this technology will not replace the critical functions and

unmatched professionalism of manned LAFD aircrafts. Still having this tool at our disposal will significantly offset operating costs now associated with LAFD Air Operations.

PRIVACY CONCERNS

The Department is aware of the concerns surrounding Unmanned Aerial Systems, particularly as they relate to privacy. The American Civil Liberties Union (ACLU) issued a 22-page report on the growing use of the UAS. This December 2011 report included a list of recommendations and considerations that should be addressed by an agency wishing to deploy a UAS. In summary, it is the ACLU’s opinion that uniform rules should be enacted to ensure “we can enjoy the benefits of this new technology without bringing us closer to a “surveillance society” in which our every move is monitored, tracked, recorded, and scrutinized by the government.”

What follows are the ACLU recommendations and the Department’s response to each:

ACLU Concern	LAFD Response
<p>Usage Limits: UAVs should be subject to strict regulation to ensure that their use does not eviscerate the privacy that Americans have traditionally enjoyed and rightly expect. Innocent Americans should not have to worry that their activities will be scrutinized by drones. To this end, the use of drones should be prohibited for indiscriminate mass surveillance, for example, or for spying based on First Amendment-protected activities. In general, drones should not be deployed except: Where there are specific and articulable grounds to believe that the drone will collect evidence relating to a specific instance of criminal wrongdoing or, if the drone will intrude upon reasonable expectations of privacy, where the government has obtained a warrant based on probable cause; or where there is a geographically confined, time-limited emergency situation in which particular individuals’ lives are at risk, such as a fire, hostage crisis, or person lost in the wilderness; or for reasonable non-law enforcement purposes by non-</p>	<p>Any Department-operated UAS will be launched according to the parameters set herein: For training purposes and development of training aids or for responses to emergent incidents where immediate hazard mitigation is required. During training purposes, UAS operations will be limited to observing Department personnel and the community and City leadership will be notified of its launch.</p>

<p>law enforcement agencies, where privacy will not be substantially affected, such as geological inspections or environmental surveys, and where the surveillance will not be used for secondary law enforcement purposes.</p>	
<p>Image Retention: Images of identifiable individuals captured by aerial surveillance technologies should not be retained or shared unless there is reasonable suspicion that the images contain evidence of criminal activity or are relevant to an ongoing investigation or pending criminal trial.</p>	<p>Footage captured by any Department UAS will be retained for record keeping/retention by the Department custodian of records (Arson Section) and portions will be utilized on social media, increasing transparency. An integral part of successful program is a well-developed and proactive media and public awareness campaign. Led by the Community Liaison Office, the Department will take aggressive steps to address concerns and gain support from the public by regularly advertising all phases of the LAFD UAS project.</p>
<p>Public notice. The policies and procedures for the use of aerial surveillance technologies should be explicit and written, and should be made public. While it is legitimate for the police to keep the details of particular investigations confidential, policy decisions regarding overall deployment policies—including the privacy tradeoffs they may entail—are a public matter that should be openly discussed</p>	<p>The Department will regularly utilize all media sources to apprise the public of the UAS activity by:</p> <ul style="list-style-type: none"> • Announcing the projects launch; • Incorporating the project into LAFD public facing websites and social media portals; • Regularly publicizing the project's progress; • Scheduling a series of “exhibition flights” open to the public; • Developing a comment and feedback avenue for the public; • Reporting incidents where the UAV is deployed in advance.
<p>Policy: Usage policy on drones should be decided by the public’s representatives, not by police departments, and the policies should be clear, written, and open to the public</p>	<p>This document, will serve as the Department’s official “Deployment and Use Policy” on UAS. Any direction called for herein will only be enacted after thoughtful consideration of and approval by both the Department’s civilian oversight (the Los Angeles Fire Department Board of Fire Commissioners) and the Mayor and City Council, including any relevant committees.</p>

<p>Auditing and effectiveness tracking: Investments in UAVs should not be made without a clear, systematic examination of the costs and benefits involved. And if aerial surveillance technology is deployed, independent audits should be put in place to track the use of UAVs by government, so that citizens and other watchdogs can tell generally how and how often they are being used, whether the original rationale for their deployment is holding up, whether they represent a worthwhile public expenditure, and whether they are being used for improper or expanded purposes.</p>	<p>The Department will submit quarterly reports to the Board of Fire Commissioners and to the City Council and any relevant committee, as needed.</p>
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CONCLUSION

Fire departments throughout the country, led by the Los Angeles Fire Department, go far beyond the task of extinguishing flames. With more than 85% of this Department’s call load EMS related, this Department is expected to be an “all risk” response provider. Tools that provide our fire service professionals greater awareness and access to critical information allows for safer and more effective action. It is our obligation to do everything possible to protect the safety and lives of those who are willing to defend the safety and lives of the citizens of Los Angeles.

This is a significant undertaking for the Department but one that is in direct alignment with the strategic plan. Capitalizing on advanced technologies via UAS will greatly improve our tactical effectiveness and provide for a more efficient deployment of resources in both the emergent and expanded incident management scenarios. The committee is working diligently to ensure that we do not suggest or implement anything that falls outside of the strict guidelines set by the FAA, state, and local law or that could disrupt public trust. The committee will continue to seek best practices. Until the FAA and subsequently the Department fully vets and approves the “LAFD UAS Program,” no UAS will be deployed to an active incident.

Board report prepared by Richard Fields, Battalion Chief, Battalion 13.

Attachment B

[Type the document title]

[Type the date]

March 21, 2016

TO: Chief Deputy
Emergency Operations, THROUGH CHANNELS

FROM: _____, Battalion Chief
Project Coordinator, In-Service Training Section

SUBJECT: LAFD UAS (DRONE) PROGRAM PART III-
DEVELOPMENT OF THE LAFD DEPLOYMENT AND USE POLICY

SUMMARY

The Los Angeles Fire Department seeking to be the first major metropolitan department to obtain a certificate of authorization to operate unmanned aerial systems (UAS) as part of our initial action hazard mitigation and response matrix. The dedication required to obtain this COA is a reflection of the Los Angeles Fire Departments commitment to excellence and reflects key elements of the Departments strategic plan.

Administrative approval was given to critically evaluate the practicality of deploying a UAS for damage assessments and how the Los Angeles Fire Department's Incident Command teams would realistically incorporate unmanned aerial vehicles into their situational awareness and damage assessment process.

A committee was formed consisting of members representing Operations, Fire Prevention and Public Safety, Training. The committee consults with LAFD Air Operations and other public safety entities throughout the region and state. The committee evaluated the feasibility of a Department wide UAS program by researching the legal and regulatory statues; the financial and operational impacts and completing a risk versus benefit analysis. The results of the committee's collaboration will make up a three-part comprehensive report. This document will provide drafts of a proposed Department policy, operational guidelines, and training and certification processes.

The foundation for the guidelines herein were derived in part or on the whole from the existing standards for operating as a "public aircraft" entity described in the FAA Flight Standards Information Management System (FSIMS) 8900.1 Volume 16.

USE GUIDELINES

We envision this technology being applied in two phases. Phase I will focus on use scenarios limited to:

- Hazard Assessment (with example) related to BUT not during the initial action phase of an incident.
- Hiker (Hi/low angle rescue) Incidents
- Swift Water Incidents
- Extended/Expanded Incidents (F.I.M.T. - Field Incident Management Team Activation)
- Planned Training Events

Phase II will be identified as the period of time after which the Department has completed the FAA's process and obtains a Certificate of Authority. These use scenarios may include:

- Wildfire Mitigation
- Flood Response
- High Rise and Commercial Fires
- Hazardous Material Mitigation
- Search and Rescue
- Structure Collapse and Confined Space Rescue
- Pre-Incident Fire Planning
- Post-Incident Fire Review
- Creating Communication Networks during disaster response

DEPLOYMENT GUIDELINES

I. Policy:

It shall be the policy of the Los Angeles Fire Department to provide and strictly adhere to the guidelines for the safe and effective operation of an Unmanned Aircraft System (UAS).

II. Objective:

To clearly define the conditions and parameters under which the Department will operate and deploy a UAS within the City limits and mutual aid communities as a supplement to pre-planning, training, incident assessment, and incident command operations.

III. Procedure

A. Definitions

1. UAS: Refers to an Unmanned Aircraft System (Drone)
2. Remote Controller: The wireless communication device that provides the interface between the operator and the UAS
3. UAS Pilot: The person directly responsible for the operations of the UAS
4. UAS Observer: The safety officer responsible for providing support to the Pilot during UAS operations

5. UAS Data Technician: The person assigned to the Command Post to provide "real time" photo/video intelligence to the Incident Commander (this role can be filled by the EIT/Captain I Adjutant)

6. Day/Visual Meteorological Conditions: Conditions in which operators have sufficient visibility to fly the UAS
7. Rally Point: The point at which the UAS compass is calibrated during pre-flight procedures
8. Ready to Fly Mode: At least 6 GPS satellites acquired with GPS coordinates recorded and set as the rally point.

B. The UAS is an operational tool to be used in a variety of scenarios which can include in priority order: Training and related video production, Tactical Operation Pre-planning, hazard and damage assessment; hazardous material identifications, confined area search operations, i.e. "river rescue" and "hiker" incidents.

C. The UAS **will not** be used to monitor or provide surveillance for law enforcement purposes but can be used to provide greater situational awareness thereby enhancing firefighter and police safety but only during response and mitigation of **emergent** situations and incident types **unrelated** to citizen monitoring or surveillance.

D. The LAFD UAS will only be operated by trained, certified and licensed members (operators and an observer) of the Los Angeles Fire Department. The UAS will be used for Fire Department related purposes only, and not at the request of any other department or agency.

- E. Upon request, the UAS flight team (operator and an observer) will deploy to the designated location within the Los Angeles Fire Department fire protection area as well as its surrounding mutual aid response areas. The UAS flight team will conduct a pre-flight site assessment.
- F. The UAS Operator along with UAS Observer will determine if safe operation of the UAS can be accomplished as requested. The decision will be contingent upon several factors to include physical features of the area, obstructions to flight, terrain, and the weather.
- G. The Incident Commander and/or UAS Operator will coordinate with the Air Operations Section Commander or Chief Pilot for final clearance for ALL UAS flight operations.
- H. Qualifications: The Los Angeles Fire Department UAS will only be operated by Los Angeles Fire Department personnel trained in its safe and effective operation.
 - 1. The (6) UAS and all related support equipment will be kept as follows: (1) at each geographic Bureau office in the charge of the Training Support Specialists (TSS) and (2) assigned to the In-Service Training Section.
 - 2. UAS operators must be Los Angeles Fire Department personnel and must have at a minimum, an FAA part 107 license. The operator will then have a minimum of **two** hours of knowledge based training and a minimum of **four** hours of skill based training conducted by a designated Los Angeles Fire Department instructor followed by **ten** hours of supervised in-flight operation.
 - 3. UAS operators must maintain his/her part 107 license, maintain flight logs and all necessary records to meet the FAA's requirements. UAS operators will also be required to open, complete and maintain a taskbook specific to specialized flight operations, i.e. HazMat, Urban Search and Rescue or confined space flight.
- I. Duties:
 - 1. The UAS Operator will function as team leader and the operator of the UAS. The operator will be ultimately responsible for the operation and solely responsible for input of commands of the UAS during flight. The Operator will also be responsible for UAS assembly, flight preparation, post flight procedures, and UAS disassembly/storage procedures. The Operator will be responsible for documenting all UAS flights.
 - 2. UAS Safety (Observer) will visually ensure that the UAS is operating in a safe area and in a safe manner. UAS Safety will also ensure that the Operator is not interrupted during flight.
 - 3. UAS Data Technician will be utilized anytime the documentation captured by the UAS needs to be provided in "real time" or in the initial action phase of an incident.

J. Safety of Operation:

1. Safety of the UAS is the responsibility of the UAS Pilot and UAS Observer
2. Except as required by the mission, UAS Pilot and UAS Observer will ensure that no persons are in the vicinity of the UAS during operations to avoid flying over non-essential persons or vehicles.
3. Under no circumstances shall the UAS be utilized when LAFD helicopters are engaged, over large gatherings of people or operated from a moving vehicle.
4. Except for the purpose of training, only personnel who meet the requirements set forth by the FAA and in the Qualifications section of this document will be permitted to act as a UAS Pilot.
5. UAS Pilot will comply with the UAS User Manual, warnings, limitations, and/or checklists at all times unless an emergency dictates otherwise.
6. The Fire Department shall be guided by FAA guidelines when the UAS is to be deployed.
7. All UAS operations will be conducted in Day/Visual Meteorological Conditions.
8. UAS night operations must be specifically requested and authorized.

K. Pre Flight Operations:

1. Operational Area: The UAS operation area should be evaluated for adequate space and clearances in order to safely assemble, launch, and recover the UAS. Attention should be given to overhead obstacles and obstructions that may pose a risk to the UAS during operation. The site selected and utilized by the UAS Operator should be restricted and access granted to personnel for operational purposes only.
2. Batteries
 - a. All UAS related devices shall have fully charged batteries prior to flight.
 - b. Never charge or fly the UAS with a battery that has visual damage.
3. A pre-flight check of the UAS will be completed in accordance with the manufacturer's recommendation.
4. Communications with the UAS Operator will be limited to operationally necessary communications in order to minimize disruptions during operations
5. The UAS shall not be operated with less than 6 GPS satellites acquired

L. Flight Operations:

1. The UAS will be flown in accordance with all FAA guidelines and manufacturer specification.
2. Care shall be taken in the operation of the UAS to avoid flying over persons and property that could result in injury or damage whenever possible.
3. "Lost Link" response shall be set prior to flight
4. The UAS **SHALL NOT** be operated at altitudes greater than 400 feet or at speeds greater than 50 knots (57mph).
5. For all operations, UAS Safety shall maintain a visual observation on the UAS and the UAS operator during flight

- M. Emergency Procedures - Emergency Procedures stated in the manufacturer's operations manual shall be complied with for all UAS operations.
1. Loss of Flight Control (lost link):
 - a. The UAS lost link procedure is set for 3 seconds of complete signal loss and should return to its rally point
 - b. To ensure the UAS successful return to its rally point following failsafe activation, only fly in ready to fly mode.
 - c. If visual contact is lost with the UAS during flight, the UAS Pilot shall command the UAS into a hover mode and along with UAS Observer shall attempt to re-establish visual contact. If visual contact cannot be re-established within a reasonable amount of time as determined by the UAS Operator, the lost-link procedure shall be executed.
 2. Loss of GPS Signal
 - a. The UAS will automatically descend during the Failsafe process if there are less than 6 GPS satellites detected for more than 20 seconds
 - b. If positive control of the UAS cannot be maintained, the UAS pilot shall enter manual flight mode, land the UAS, and remove it from service.
 3. Loss of Power: In the event of complete loss of power, the UAS will not be able to maintain flight. UAS Pilot and UAS Observer shall immediately attempt to locate the UAS, assess the scene for injuries, and render first aid as necessary.
- N. Post Flight Procedures - The UAS pilot shall adhere to these procedures following UAS flights.
1. Power down sequence starting with UAS followed by the other flight components
 2. Remove and charge batteries
 3. Install gimbal clip and camera lens cover
 4. Disassemble and stow UAS
 5. Document where UAS was used and reason for operation.
- O. Readiness - UAS batteries will be maintained as recommended by the manufacturer and the cycling of batteries will be documented in the UAS battery log. Batteries will be labeled and replaced as necessary.
- P. Incidents/Accidents:
1. During an incident/accident, efforts will be focused on:
 - a. Minimizing risk to life
 - b. Care for the injured
 - c. Protect property
 2. In the event of a UAS incident accident, the following notifications will be made:
 - a. Fire/EMS personnel
 - b. LAFD or LAPD Air Operations
 - c. Appropriate Bureau commander
 3. Investigation: A full investigation, under the direction of LAFD Air Operations, will be conducted in the event of a UAS incident accident or failure.

Q. Any damage to the UAS or its support equipment shall be immediately reported through channels to the Deputy Chief of Training and Support Bureau.

R. Chain of Custody

1. Archive and catalog; then surrender any recorded photo/video material, within 12 hours, to the custodian of records (Arson/Counter Terrorism Section).

2. Recorded photo/video material not related to an LAFD response; i.e. planned training event, shall be surrendered, within 12 hours, to the In Service Training Section **by permission** of the custodian of records (Arson/Counter Terrorism Section).

Public Awareness

As the program unfolds, public opinion will be a factor in its overall success. A proactive approach to publicly advertising all phases of the project should include the following:

- Utilize all media sources to announce the projects launch
- Incorporate project into LAFD public facing website
- Develop a comment and feedback avenue for the public (Complaint Tracking System)
- Regularly publicize the projects progress
- Report incidents where the UAV is deployed and related success stories
- Develop a series of public education forums at the geographic Bureau offices
- Provide quarterly reports on LAFD UAS activity to the Board of Fire Commissioners

PILOT/OBSERVER CHECK LIST - PRE FLIGHT

PRE FLIGHT NOTIFICATION

Notify: IC/CP shall contact LAFD AirOps (818) 756-8635

ENVIRONMENTAL CHECKS

Check for people, animals, and property in the flight vicinity

Notify any bystanders or nearby property owner of your intentions if flying FPV, discuss flight plan with your Observer

If flying in controlled airspace, notify airspace authority of you intentions

First Aid / Safety Kit on hand, stocked, readily accessible, and accessible to anyone in the area

HARDWARE / EQUIPMENT INSPECTION

****VISUALLY INSPECT THE AIRFRAME****

Cracks (especially in high stress area like joints)

Loose or damaged screws / fasteners / bands / straps / ties Loose or damaged wiring

Loose or damaged connections (solder, plugs, etc.)

Inspect prop mounts & screws & apply slight counter pressure on arms to check for loosened construction For FPV, inspect/clean FPV and/or camera lens and ensure that cameras are secured

Battery/batteries fully charged, properly seated & secured

Props are smooth and free of damage/defect (check blade, surface, and hub) Tighten prop adapters (careful not to over tighten)

Ensure props are properly attached

Ensure the iPad application is open and updated

Check your RC and make sure firmware is up to date

Check AC and make sure firmware is up to date

PRE-FLIGHT "FINAL CHECK"

****POWER UP****

Batteries charged and secure
Position quad in a level, safe location for take-off For FPV, power up ground station, video receiver, etc. Confirm video feed from camera is on and streaming
All transmitter controls move freely in all directions All transmitter switches in correct position Transmitter throttle to zero
Ensure led indicators and audible tones are all correct Scan for nearby people or animals
Stand clear - announce the word "CLEAR" Arm flight controller

****PRE TAKEOFF****

Increase throttle slightly listening for any abnormalities
Short 20-30 second hover at 3-5 feet (listen for weird vibrations or anything that sounds loose)

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