August 20, 2019

# LOS ANGELES FIRE DEPARTMENT

RALPH M. TERRAZAS
FIRE CHIEF

August 5, 2019

BOARD OF FIRE COMMISSIONERS
FILE NO. 19-092

TO: Board of Fire Commissioners

FROM: Ralph M. Terrazas, Fire Chief

SUBJECT: UNMANNED AERIAL SYSTEMS (UAS) POLICY REVISIONS

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| | ____ Approved | ____ Approved w/Corrections | ____ Withdrawn |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

## SUMMARY

Since approval by the Board of Fire Commissioners, the Los Angeles Fire Department (LAFD) Unmanned Aerial Systems (UAS) program has focused on building a foundation that will support a valuable and sustainable program. A program that could successfully support the Fire Department's mission requires an ongoing effort, focused on internal and external growth. Specific to external growth, the LAFD is leading the development of a regional UAS program that is eligible for several federal grants, namely, Urban Areas Security Initiative (UASI) and State Homeland Security Program (SHSP). The Homeland Security Grant Program's initial grant application review highlighted specific areas of the Department's current policy requiring amending to more closely comply with federal guidelines.

## RECOMMENDATION

That the Board:
Approve the report.

## FISCAL IMPACT

There is no fiscal impact on the General Fund associated with report at this time.

## DISCUSSION

In July 2018, the approval authority for the Los Angeles Area Fire Chiefs Association (LAAFCA) met to allocate grant funding to programs and training that would benefit the 31 departments in the region. The "authority" voted to support and provide funding for a regional Unmanned Aerial Systems program aimed at developing uniformed policy and operational guidelines for agencies wishing to integrate UAS technology and access grant funds to purchase related hard and software. The "region" convened a working group of stakeholder departments and the Mayor's Office, chaired by LAFD Homeland Security Division and the LAAFCA president. While this vote was for the 2019-2020 grant cycle, residual funding was identified from the current (UASI '17) grant and in March 2019, LAFD was directed to submit an Aviation equipment purchase request through the Homeland Security Grant Program.

The grant application is transmitted from the City to the California Office of Emergency Management (CalOES) which, after its preliminary review, submits the application to the Federal Emergency Management Agency (FEMA) for final review and approval. This initial grant application review highlighted specific areas of the Department's policy that, while containing "small amounts of privacy policy and 4th Amendment protections," needed amending to more closely comply with the 2017 FEMA Grants Program Directorate Information Bulletin (IB) 426 and federal guidelines found in the 2015 Presidential Memo *"Safeguarding Privacy, Civil Rights, and Civil Liberties* in *Domestic Use of Unmanned Aircraft Systems"*. Specifically, the initial review recommended the following be added to the Department's policy:

1. A statement regarding civil rights and civil liberties, other First Amendment protections.

2. A statement regarding the procedures for receiving, investigating and addressing privacy, civil rights, and civil liberties complaints.

To address the aforementioned comments and further strengthen the Department's current policy, the Department is requesting approval from the Board of Fire Commissioners to add the following language (reviewed by the City Attorney's Office), to page 10 of the LAFD UAS Policy:

1. Add the heading "Addressing Privacy;" and,

2. Adopt the following language from the 2015 Presidential Memo, Section 1, (b) Civil Rights and Civil Liberties Protections:

To protect civil rights and civil liberties, the Los Angeles Fire Department shall:

(i) prohibit the collection, use, retention, or dissemination of data in any manner that would violate the First Amendment or which would in any manner discriminate against persons based upon their ethnicity, race, gender, national origin, religion, sexual orientation, or gender identity, in violation of law;
(ii) only perform UAS activities in a manner consistent with the United States and California Constitutions, and applicable laws; and
(iii) make the Department's Professional Standards Division available to receive, investigate, and address, as appropriate, privacy, civil rights and civil liberties complaints relating to the deployment of an LAFD UAS and/or the retention of information from such deployment.

Operations Manual

Where appropriate and to create consistency with this Policy, amendments will be made to the Operations Manual when addressing operational consideration for privacy and civil liberties protections.

**CONCLUSION**
The LAFD UAS Program is the first public safety agency in the state to access federal grants to support Unmanned Aerial technology integration into its response matrix and will lead the region in future endeavors. These amendments only serve to strengthen the Department's existing exemplary policy while in no way deviating from the spirit of the Policy originally approved.

Board report prepared by: Richard Fields IV, Battalion Chief, LAFD UAS Program Coordinator.

Attachments

# Presidential Documents

**Memorandum of February 15, 2015**

## Promoting Economic Competitiveness While Safeguarding Privacy, Civil Rights, and Civil Liberties in Domestic Use of Unmanned Aircraft Systems

**Memorandum for the Heads of Executive Departments and Agencies**

Unmanned Aircraft Systems (UAS) technology continues to improve rapidly, and increasingly UAS are able to perform a variety of missions with greater operational flexibility and at a lower cost than comparable manned aircraft. A wide spectrum of domestic users—including industry, private citizens, and Federal, State, local, tribal, and territorial governments—are using or expect to use these systems, which may play a transformative role in fields as diverse as urban infrastructure management, farming, public safety, coastal security, military training, search and rescue, and disaster response.

The Congress recognized the potential wide-ranging benefits of UAS operations within the United States in the FAA Modernization and Reform Act of 2012 (Public Law 112–95), which requires a plan to safely integrate civil UAS into the National Airspace System (NAS) by September 30, 2015. As compared to manned aircraft, UAS may provide lower-cost operation and augment existing capabilities while reducing risks to human life. Estimates suggest the positive economic impact to U.S. industry of the integration of UAS into the NAS could be substantial and likely will grow for the foreseeable future.

As UAS are integrated into the NAS, the Federal Government will take steps to ensure that the integration takes into account not only our economic competitiveness and public safety, but also the privacy, civil rights, and civil liberties concerns these systems may raise.

By the authority vested in me as President by the Constitution and the laws of the United States of America, and in order to establish transparent principles that govern the Federal Government's use of UAS in the NAS, and to promote the responsible use of this technology in the private and commercial sectors, it is hereby ordered as follows:

**Section 1.** *UAS Policies and Procedures for Federal Government Use.* The Federal Government currently operates UAS in the United States for several purposes, including to manage Federal lands, monitor wildfires, conduct scientific research, monitor our borders, support law enforcement, and effectively train our military. As with information collected by the Federal Government using any technology, where UAS is the platform for collection, information must be collected, used, retained, and disseminated consistent with the Constitution, Federal law, and other applicable regulations and policies. Agencies must, for example, comply with the Privacy Act of 1974 (5 U.S.C. 552a) (the "Privacy Act"), which, among other things, restricts the collection and dissemination of individuals' information that is maintained in systems of records, including personally identifiable information (PII), and permits individuals to seek access to and amendment of records.

(a) *Privacy Protections.* Particularly in light of the diverse potential uses of UAS in the NAS, expected advancements in UAS technologies, and the anticipated increase in UAS use in the future, the Federal Government shall take steps to ensure that privacy protections and policies relative to UAS continue to keep pace with these developments. Accordingly, agencies shall, prior to deployment of new UAS technology and at least every

3 years, examine their existing UAS policies and procedures relating to the collection, use, retention, and dissemination of information obtained by UAS, to ensure that privacy, civil rights, and civil liberties are protected. Agencies shall update their policies and procedures, or issue new policies and procedures, as necessary. In addition to requiring compliance with the Privacy Act in applicable circumstances, agencies that collect information through UAS in the NAS shall ensure that their policies and procedures with respect to such information incorporate the following requirements:

(i) *Collection and Use.* Agencies shall only collect information using UAS, or use UAS-collected information, to the extent that such collection or use is consistent with and relevant to an authorized purpose.

(ii) *Retention.* Information collected using UAS that may contain PII shall not be retained for more than 180 days unless retention of the information is determined to be necessary to an authorized mission of the retaining agency, is maintained in a system of records covered by the Privacy Act, or is required to be retained for a longer period by any other applicable law or regulation.

(iii) *Dissemination.* UAS-collected information that is not maintained in a system of records covered by the Privacy Act shall not be disseminated outside of the agency unless dissemination is required by law, or fulfills an authorized purpose and complies with agency requirements.

(b) *Civil Rights and Civil Liberties Protections.* To protect civil rights and civil liberties, agencies shall:

(i) ensure that policies are in place to prohibit the collection, use, retention, or dissemination of data in any manner that would violate the First Amendment or in any manner that would discriminate against persons based upon their ethnicity, race, gender, national origin, religion, sexual orientation, or gender identity, in violation of law;

(ii) ensure that UAS activities are performed in a manner consistent with the Constitution and applicable laws, Executive Orders, and other Presidential directives; and

(iii) ensure that adequate procedures are in place to receive, investigate, and address, as appropriate, privacy, civil rights, and civil liberties complaints.

(c) *Accountability.* To provide for effective oversight, agencies shall:

(i) ensure that oversight procedures for agencies' UAS use, including audits or assessments, comply with existing agency policies and regulations;

(ii) verify the existence of rules of conduct and training for Federal Government personnel and contractors who work on UAS programs, and procedures for reporting suspected cases of misuse or abuse of UAS technologies;

(iii) establish policies and procedures, or confirm that policies and procedures are in place, that provide meaningful oversight of individuals who have access to sensitive information (including any PII) collected using UAS;

(iv) ensure that any data-sharing agreements or policies, data use policies, and record management policies applicable to UAS conform to applicable laws, regulations, and policies;

(v) establish policies and procedures, or confirm that policies and procedures are in place, to authorize the use of UAS in response to a request for UAS assistance in support of Federal, State, local, tribal, or territorial government operations; and

(vi) require that State, local, tribal, and territorial government recipients of Federal grant funding for the purchase or use of UAS for their own operations have in place policies and procedures to safeguard individuals' privacy, civil rights, and civil liberties prior to expending such funds.

(d) *Transparency.* To promote transparency about their UAS activities within the NAS, agencies that use UAS shall, while not revealing information

that could reasonably be expected to compromise law enforcement or national security:

(i) provide notice to the public regarding where the agency's UAS are authorized to operate in the NAS;

(ii) keep the public informed about the agency's UAS program as well as changes that would significantly affect privacy, civil rights, or civil liberties; and

(iii) make available to the public, on an annual basis, a general summary of the agency's UAS operations during the previous fiscal year, to include a brief description of types or categories of missions flown, and the number of times the agency provided assistance to other agencies, or to State, local, tribal, or territorial governments.

(e) *Reports.* Within 180 days of the date of this memorandum, agencies shall provide the President with a status report on the implementation of this section. Within 1 year of the date of this memorandum, agencies shall publish information on how to access their publicly available policies and procedures implementing this section.

**Sec. 2.** *Multi-stakeholder Engagement Process.* In addition to the Federal uses of UAS described in section 1 of this memorandum, the combination of greater operational flexibility, lower capital requirements, and lower operating costs could allow UAS to be a transformative technology in the commercial and private sectors for fields as diverse as urban infrastructure management, farming, and disaster response. Although these opportunities will enhance American economic competitiveness, our Nation must be mindful of the potential implications for privacy, civil rights, and civil liberties. The Federal Government is committed to promoting the responsible use of this technology in a way that does not diminish rights and freedoms.

(a) There is hereby established a multi-stakeholder engagement process to develop and communicate best practices for privacy, accountability, and transparency issues regarding commercial and private UAS use in the NAS. The process will include stakeholders from the private sector.

(b) Within 90 days of the date of this memorandum, the Department of Commerce, through the National Telecommunications and Information Administration, and in consultation with other interested agencies, will initiate this multi-stakeholder engagement process to develop a framework regarding privacy, accountability, and transparency for commercial and private UAS use. For this process, commercial and private use includes the use of UAS for commercial purposes as civil aircraft, even if the use would qualify a UAS as a public aircraft under 49 U.S.C. 40102(a)(41) and 40125. The process shall not focus on law enforcement or other noncommercial governmental use.

**Sec. 3.** *Definitions.* As used in this memorandum:

(a) "Agencies" means executive departments and agencies of the Federal Government that conduct UAS operations in the NAS.

(b) "Federal Government use" means operations in which agencies operate UAS in the NAS. Federal Government use includes agency UAS operations on behalf of another agency or on behalf of a State, local, tribal, or territorial government, or when a nongovernmental entity operates UAS on behalf of an agency.

(c) "National Airspace System" means the common network of U.S. airspace; air navigation facilities, equipment, and services; airports or landing areas; aeronautical charts, information, and services; related rules, regulations, and procedures; technical information; and manpower and material. Included in this definition are system components shared jointly by the Departments of Defense, Transportation, and Homeland Security.

(d) "Unmanned Aircraft System" means an unmanned aircraft (an aircraft that is operated without direct human intervention from within or on the aircraft) and associated elements (including communication links and components that control the unmanned aircraft) that are required for the pilot

or system operator in command to operate safely and efficiently in the NAS.

(e) "Personally identifiable information" refers to information that can be used to distinguish or trace an individual's identity, either alone or when combined with other personal or identifying information that is linked or linkable to a specific individual, as set forth in Office of Management and Budget Memorandum M–07–16 (May 22, 2007) and Office of Management and Budget Memorandum M–10–23 (June 25, 2010).

**Sec. 4**. *General Provisions.* (a) This memorandum complements and is not intended to supersede existing laws and policies for UAS operations in the NAS, including the National Strategy for Aviation Security and its supporting plans, the FAA Modernization and Reform Act of 2012, the Federal Aviation Administration's (FAA's) Integration of Civil UAS in the NAS Roadmap, and the FAA's UAS Comprehensive Plan.

(b) This memorandum shall be implemented consistent with applicable law, and subject to the availability of appropriations.

(c) Nothing in this memorandum shall be construed to impair or otherwise affect:

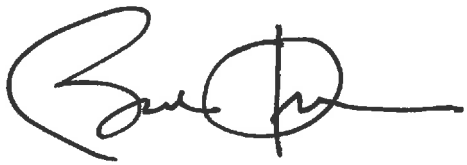
(i) the authority granted by law to an executive department, agency, or the head thereof; or

(ii) the functions of the Director of the Office of Management and Budget relating to budgetary, administrative, or legislative proposals.

(d) Independent agencies are strongly encouraged to comply with this memorandum.

(e) This memorandum is not intended to, and does not, create any right or benefit, substantive or procedural, enforceable at law or in equity by any party against the United States, its departments, agencies, or entities, its officers, employees, or agents, or any other person.

(f) The Secretary of Commerce is hereby authorized and directed to publish this memorandum in the *Federal Register*.



THE WHITE HOUSE,
*Washington, February 15, 2015*

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U.S. Department of Homeland Security
Washington, DC 20472

FEMA

**Grant Programs Directorate Information Bulletin**
**No. 426**
**November 1, 2017**

**MEMORANDUM FOR:** All State Administrative Agency Heads
All State Administrative Agency Points of Contact
All Urban Area Security Initiative Points of Contact
All State Homeland Security Advisors
All State Emergency Management Agency Directors
All Eligible Regional Transit Agencies
All Private Sector Transportation Security Partners
All Public and Private Sector Port Security Partners
All Tribal Nation Points of Contact

**FROM:** Thomas DiNanno
Assistant Administrator for Grant Programs
Federal Emergency Management Agency

**SUBJECT:** **Guidance to Recipients and Subrecipients of FEMA Preparedness Grants Regarding Implementation of Executive Order 13809 Restoring State, Tribal, and Local Law Enforcement's Access to Life-Saving Equipment and Resources**

## I. Purpose

This Information Bulletin (IB) provides guidance to recipients of FEMA preparedness grants regarding the implementation of Executive Order (EO) 13809 Restoring State, Tribal, and Local Law Enforcement's Access to Life-Saving Equipment and Resources, signed on August 28, 2017.

## II. Applicability

This IB is applicable to all grants awarded by the Federal Emergency Management Agency subject to IB 407a (January 19, 2017) or any previous versions of IB 407, which applied to awards made on or after October 1, 2015.

## III. Guidance

### A. Executive Order 13809 Implementation

1. On August 28, 2017, the President signed EO 13809, "Restoring State, Tribal, and Local Law Enforcement's Access to Life-Saving Equipment and Resources."

2. EO 13809 revoked EO 13688 "Federal Support for Local Law Enforcement Equipment Acquisition," dated January 16, 2015.

3. Since IB #407, "Use of Grant Funds for Controlled Equipment" and IB #407a, "Use of Grant Funds for Controlled Equipment: Update for Fiscal Year 2017" were issued in order to comply with Executive Order 13688, these IBs are rescinded, effective immediately.

4. Similarly, FEMA is no longer requiring the use of FEMA Form 087-0-0-1.

5. All references to IBs 407 and 407a and FEMA Form 087-0-0-1 will be removed from the FEMA Authorized Equipment List (AEL) as soon as practical. Until such time as this action is completed, recipients and subrecipients may disregard any requirements in the AEL referencing these IBs. Recipients should contact their GPD or Regional Program Analyst with any and all specific questions.

B. **Policy on Use of FEMA Grant Awards to Purchase Certain Equipment Items**

1. All items that were on the Prohibited Equipment List in IBs 407 and 407a except for tracked armored vehicles (AEL #12VE-00-MISS - Vehicle, Specialized Mission) and urban camouflage uniform items (AEL #01LE-02-BDUS - Specialized Clothing, NFPA 1975 or NFPA 2112) remain unallowable under any FEMA preparedness grant.

2. Unless noted below, all items that were on the Controlled Equipment List in IBs 407 and 407a are allowable under FEMA preparedness grants, provided that acquisition of the items are consistent with the terms of the award, including the applicable Notice of Funding Opportunity (NOFO).

3. Weapons of any kind (including firearms, grenade launchers, bayonets); ammunition; and weaponized aircraft, vessels, and vehicles of any kind remain unallowable expenses under any FEMA preparedness grant program.

4. Purchase of explosive materials remains subject to the requirements found in IB 419 Purchase of Energetic Materials Using Homeland Security Grant Program (HSGP) Funding.

5. Purchase of fixed or rotary wing aircraft (AEL #18AC-00-ACFT - Aircraft, CBRNE ) will continue to require a waiver from FEMA by consulting the appropriate FEMA Program Analyst, providing a detailed justification for obligating funds in this category, and receiving approval to obligate funds. A detailed justification must address the following:

    a. The need for the aircraft and how the requested platform best meets that need as compared to other options;

b. How the requested aircraft fits into the State/Urban Area's integrated operational plans;

c. Types of terrorism incident response and prevention equipment with which the requested aircraft will be outfitted, if purchased using HSGP funds;

d. How the aircraft will be used operationally and which response assets will be deployed using the requested aircraft; and

e. How the aircraft will be utilized on a regular, non-emergency basis.

Licensing, registration fees, insurance, and all ongoing operational expenses will continue to be the responsibility of the grantee or the local units of government and are not allowable under the grant.

6. Small Unmanned Aircraft Systems (AEL #03OE-07-SUAS - System, Small Unmanned Aircraft) are considered aircraft and are required to meet the requirements in #3 above. In addition, all requests to purchase SUAS with FEMA grant funding must also include copies of the policies and procedures in place to safeguard individuals' privacy, civil rights, and civil liberties of the jurisdiction that will purchase, take title to, or otherwise use the SUAS equipment, see Presidential Memorandum: Promoting Economic Competitiveness While Safeguarding Privacy, Civil Rights, and Civil Liberties, in Domestic Use of Unmanned Aircraft Systems, issued February 20, 2015.

7. Equipment intended to be used for riot suppression including riot batons, riot helmets, and riot shields continues to be an unallowable expense under any FEMA preparedness grant program.

8. Recipients and subrecipients must continue to comply with all other equipment acquisition requirements of their award's applicable NOFO, including requirements governing the acquisition of equipment not identified in the AEL.

## IV. Questions

Questions regarding this IB may be directed to the applicable GPD or Regional Program Analyst.

## V. Review Date

This IB will be reviewed within five years (5) from date of issuance.


# LOS ANGELES FIRE DEPARTMENT UAS POLICY

FOR DEPLOYMENT AND USE

# Table of Contents

# Introduction

For the purpose of this document, the terms "Unmanned Aerial Systems (UAS)," and "Unmanned Aerial Vehicle" (UAV), will be interchangeable. (Unmanned Aerial "system" in order to encompass the entirety of the vehicle that flies, the ground-based controller, and the communications connection that connects the two.) Many sources have variations in terminology when referencing the depiction of this technology.

## *Vision*

The basic assumption is that a UAV provides an efficient and effective way for gathering information for the Los Angeles Fire Department ("Department"). The UAV allows for a clearer understanding of an event and assists in getting the right resources in place. It allows the incident commander and hazard assessment teams to get a true visual of the incidents challenges that can be communicated to local, state, and federal officials. This puts everyone on the same page of understanding.

The enhancement of situational awareness provides structure and details for hazard mitigation during the incident and sets the foundation for incident stabilization and post incident recovery.

More importantly, this increased situational awareness positively impacts firefighter safety during wildland firefighting, technical rescues, search operations and hazardous materials incidents.

During these incident types the UAS can safely and effectively be put into hazardous environments or areas that could potentially jeopardize firefighter safety. The situational awareness gained by immediate, 360 degree, visual feedback from both eye level and overhead cannot be matched by firefighters on the ground or by helicopters. The UAS is a beneficial instrument that improves the likelihood of successful emergency management operations, while also delegating risk of response operations to unmanned systems.

The value of this program will also be seen in the deployment of the Unmanned Aerial System during the initial stabilization phase of an incident, primarily in areas where it is dangerous or ineffective to place people for the purpose of gaining a clear understanding of the scope of the incident. The technology would also be beneficial during the recovery phase for the disaster assessment process.

The benefits of adding visual capabilities to the information-gathering process cannot be overstated. This technology expands the scope of disaster assessments by enabling incident commanders a better understanding of the complexities associated with an incident and to collect and disseminate information at a faster rate. This would improve the decision-making process for both the strategic and tactical objectives. Visual images sent back from the UAV to the incident command post, Department Operations Center (DOC) or Emergency Operations Center (EOC) will aid in speeding up the recovery process.

Timely and accurate communication is essential in getting the right resources in place to mitigate an incident. Having the capability of observation enhances situational awareness. It gives various agencies a collective viewpoint of the disastrous event and strengthens the assessment process by capturing community vulnerabilities. Visual communication narrows the interpretation on what is reported at the incident and provides visual perspective as to the extent of damage.

Traditionally, contingency plans relied upon during the onset of a disaster came in the preparation phase.

# Purpose

## *Objectives*

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. The primary role of the UAS is insertion into emergent or ongoing events that pose a risk to public safety or threats to the City's infrastructure by providing "real time" hazard assessment utilizing High Resolution (zoom capable) cameras, Infrared/Thermal Sensors, Night Vision Image sensors and Gas/Chemical Sensors (Sniffers).

Although there may be occasional benefits to recording and retaining visual data, this is **NOT** the intended purpose when a UAS is launched in public space or in and around public property or domains.

## *Missions*

As an all risk response agency, the Department responds to all calls for help. Although not meant to be "all inclusive" or exclusive of any emergent incident type, the following are primary scenarios under which the Department UAS can be requested, deployed and utilized:

Structure Fires – Deployment of UAS's to structure fires, in particular, buildings suspected of structural compromise; i.e. roof, walls or floors related to and during the initial action phase and final mitigation of an incident.

Hiker (Hi/Low Angle Rescue) Incidents – Deployment of UAS's in wilderness areas to (1). Verify the existence and location of lost or injured persons who have called 911 for assistance while in hiking, camping or climbing. (2). Confirm the safest and most effective means of dispatching Department rescue team members to make contact with such persons.

Swift Water Incidents – Deployment of UAS's to City waterways, large bodies of water or during precipitous weather events (heavy rains) for the purpose of verifying the existence of and identifying the location of trapped or injured persons in swiftly moving water (at least 3 miles per hour and depths greater than 6 inches).

Extended/Expanded Incidents – Deployment of UAS's to incidents lasting more than 12 hours in duration, where an Department Field Incident Management Team (F.I.M.T.) assumes command of an incident in place of the original Incident Commander.

Wildfire Mitigation – Deployment of UAS's In Local, State and Federal areas for the purpose of GPS topographic mapping, planning and implementing control objectives. For developing hazard mitigation strategies; i.e., structure defense, perimeter control (hot spots) and containment assessment. **Under NO circumstances will a UAS be operated while manned aircraft are in operation.**

Natural Disaster Response and Assessment – Deployment of UAS's to accelerate situational awareness necessary to begin the recovery process. To collect and disseminate information through visual images sent back to the incident command post, DOC or EOC for various agencies to have a collective viewpoint of a disastrous event and strengthens the assessment process by capturing community vulnerabilities.

Hazardous Material Mitigation – Deployment of UAS's with dual-purpose sensor payload, high resolution camera to identify containment areas and amount of content for liquid spills or Gas/Chemical Sensors (Sniffers) to collect air/environment samples for analysis and identification.

Wide Area Search and Rescue – utilizing Infrared (IR) sensors to locate a lost person in low light tracking and deploying resources in areas where radio or cellular communication is impacted, diminished or unavailable.

Structure Collapse/Confined Space Search and Rescue – Deployment of UAS's utilizing IR sensors to provide night-vision footage to track heat signatures of bodies, pinpointing the locations of survivors, and providing hazard assessment for rescuers access and egress.

Planned Training Events – Use of UASs for training exercises intended to simulate any of the above mentioned "real" scenarios. Use of UASs for training purposes shall be limited to events that take place on Department property, such as Drill towers 40, 81 or 89, Frank Hotchkin Memorial Training Center, live fire training, Jensen Filtration Plant, or local fire stations.

The Department's primary intention for integrating UAS technology into its initial action hazard mitigation and response matrix is to increase the incident commanders "situational awareness" to fully understand the challenges of a given incident in "real time" thereby providing critical information necessary to guide decision-making. Ultimately, those decisions impact the amount of risk the incident commander is willing to assume with firefighters lives.

## *Deployment Guidelines*

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

**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 hazard assessment, and incident command operations. The development of this policy and procedures incorporates Department Air Operations knowledge of FAA regulations, to include concepts of Operational Risk Management (ORM), Crew Resource Management (CRM), Aviation Training Operations Procedures Standardization (ATOPS) and stakeholders.

## *Flight Procedures*

The UAS is an operational tool to be used by certain authorized Department personnel in response to "all hazard" scenarios, which include: active structure fires; post-extinguishment phases of a structure fire; brush (wild land) fires and natural disaster damage assessment; hazardous material identifications; and confined area search operations, such as "river rescue" and "hiker" incidents. The UAS is also intended to be used for training exercises, such as operational pre-planning training (drills) and related video production.

The Department's UAS **will not** be used to monitor members of the public or provide surveillance for law enforcement purposes. Its intended use is to provide greater situational awareness to incident commanders thereby enhancing firefighter safety in response to and mitigation of emergent situations and incident types unrelated to citizen monitoring or surveillance.

1. The Department UAS will only be operated by trained, certified and (FAA part 107 or higher) licensed members (operators and observer) of the Department.

2. The UAS will be used for Department- related purposes only. The Department might, as part of California regional partnerships, Mutual Aid or Automatic Aid agreements, operate the UAS outside of "city" boundaries when dispatched to assist another regional Fire Department.

3. The UAS will **NOT** be lent to any other department or agency. However, if dispatched or properly requested, the UAS, operated by an Department UAS team member(s), can be utilized in accordance with the provisions of the COA and the Department UAS Policy.

4. For Department UAS flights, including pilot or observer certification and training or In-Service Training production, the "pilot in charge" SHALL request an incident number through Metro Fire Communications.

5. For Department UAS flights during live incidents, the "pilot in charge" SHALL ensure or request the UAS be added to the existing Incident. In all cases, incident information SHALL include: launch time, exact location, pilot in charge, mission type and UAS ID.

Upon request of the Department Incident Commander or Department Representative, when the Department is an assisting agency, 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 Automatic Aid, Mutual Aid, Mutual Threat Zones and regional response areas. The UAS flight team will conduct a pre-flight assessment of the incident environment to ensure the proposed operation is within COA guidelines and Department UAS Policy.

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. **The UAS Operator will make the final determination if flight operations can be initiated.**

The Incident Commander and/or UAS Operator will coordinate with the Department's Air Operations Section Commander or Chief Pilot for final clearance for **ALL** UAS flight operations.

### *UAS Teams*

UAS Teams are an operator (pilot) and observer. The "team" concept is established to train for and respond to each authorized UAS mission. (Fire Ground Over-watch, Search and Rescue, Swift Water Rescue, etc.)

Each UAS Team will operate with at least two members of the Department (pilot-in-command and observer). Each member will be assigned a specific role prior to flight. Additional team members may be needed for complex missions, including Liaison and auxiliary Remote Controller (for independent gimbal/sensor control) The UAS Team will always have a least one certified pilot; this can be comprised of (2) Pilots or (1) Pilot and (1) Observer.

### *UAS Pilot*

The Department UAS will only be operated by Department personnel trained in its safe and effective operation. These members will normally be trained and licensed field personnel for emergent incidents or trained and licensed members assigned to the In-Service Training Section for flights not related to an emergency response.

UAS operators must be Department personnel and must have at minimum, an FAA part 107 license and a minimum of **two** hours of knowledge based training and a minimum of **four** hours of skills. This generally includes simulator flights, a knowledge test of Federal Aviation Regulations, safety, maintenance, a proficiency test on the UAS, training conducted by a designated Department UAS instructor and **ten** hours of supervised in-flight operation.

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 task book specific to specialized flight operations; i.e. HazMat, Urban Search and Rescue or confined space flight prior to operating any DEPARTMENT UAS in that area.

Additional regularly scheduled training/proficiency tests, as determined by the UASU Captain, must be completed and documented.

The UAS Operator will also be the team leader. 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, UAS disassembly/storage procedures and documenting all UAS flights.

### *UAS Observer*

The UAS Flight Observer will maintain a visual observation of the UAS while in flight and alert the PIC of any conditions (obstructions, terrain, structures, air traffic, weather, etc.), which may affect the safety of a flight. UAS Flight Observers will also ensure that the Operator is not interrupted during flight.

The Flight Observer's added function is to coordinate and communicate operations between the Pilot-in-Command (PIC) and ground personnel.

Additionally, the Flight Observer will be responsible for all aviation related communications required by Federal Aviation Regulations (FARs).

To accomplish this, the observer should be in close proximity and have constant communication with the PIC to ensure instant relaying of information.

### *UAS Data Technician*

The 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 Policy

## *Commitment to Safety*

The Department is committed to having a safe and healthy aeronautical workplace, including:

- An ongoing pursuit of an accident free workplace, including no harm to people, equipment, the environment or property.
- A culture of open reporting of all safety hazards in which management will not initiate disciplinary action against any personnel who, in good faith, disclose a hazard or safety occurrence due to unintentional or intentional conduct.
- Support for safety training and awareness programs.
- Conducting regular audits of safety policies, procedures, and practices.
- Monitoring the UAS community to ensure best safety practices are incorporated into the organization.

It is the duty of every Department member with UAS responsibilities to contribute to the goal of continued safe operations. This contribution may come in many forms and includes always operating in the safest manner and avoiding unnecessary risks. Any safety hazards, whether procedural, operational, or maintenance related should be identified as soon as possible. Any suggestions in the interest of safety should be made to the UASU Captain or Team Leader without reservation.

If any member of Department UAS Flight Team observes or has knowledge of an unsafe or dangerous act committed by another member, the incident commander and the DEPARTMENT UAS shall be notified immediately so that corrective action may be taken.

## *Ground Safety*

- The pilot and flight observer must always be aware of dangers to ground personnel from moving rotors.
- The pilot shall under no circumstances leave any unauthorized person in charge of the UAS controls while the UAS is running.
- If it is necessary for the pilot to leave the controls of the UAS, the engine will be shut down, battery removed, and the controls deactivated.
- Only mission essential personnel will be in proximity to UAS launch and recovery activities. When operating over populated areas, the pilot will ensure that a "defined incident perimeter" exists to limit the potential of persons being present beneath the UAS flight path.

## *Night Flight Operations*

- To assist the pilot, a secondary (auxiliary) Video Camera Remote Controller with a video monitor screen should be deployed for independent gimbal/sensor control.

- UAS team members should obtain the minimum altitude necessary to avoid obstructions in the operating area prior to nightfall if possible.

- Due to field of view and distortion issues, night vision goggles may not be used as the primary means for visual observation duties. Such devices are ONLY permitted for augmentation of the Flight Observer's visual capability.

- Flight Observers must use caution to ensure the UA remains within normal line-of-sight.

- The use of UAS Staff and the use of lighting and/or IR beacons to identify the launch/recover areas is highly recommended.

### *Deconfliction of Aircraft within Operational Air Space*

All UAS flights shall be grounded upon arrival of approved manned aircraft entering the operational air space.

Deconfliction shall occur by the Lead PIC of the aircraft.

Incident Commanders shall not approve UAS flights to resume until the Lead PIC of the aircraft designates UAS operating areas and approves UAS use during manned flight operations.

It is the responsibility of the UAS pilot and Flight Observer to confirm and maintain awareness of all manned aircraft activity during UAS operations.

In the event a non-Department UAS is identified in our operational air space (incursion), the Lead PIC shall notify the Incident Commander and follow the "incursion protocol" found in the Department UAS Operations Manual.

# Security Policy

## *Chain of Custody for Retained Material*

1. All recorded photo/video material related to a Department emergent response shall be archived and cataloged immediately after the conclusion of the incident; then surrender any recorded photo/video material to the Section Commander, Arson/Counter Terrorism Section, the Department's official custodian of records.

2. All recorded photo/video material **not** related to a Department response; i.e. planned training event, shall be surrendered to the In-Service Training Section **by permission** of the custodian of records (Section Commander, Arson/Counter Terrorism Section).

3. All recorded photo/video material **not** related to a Department response; i.e. planned Department training events, involving Department personnel *and/or on Department property*" shall be used, edited, reviewed and approved for **internal** dissemination within 60 days.

4. All recorded photo/video material **not** related to a Department response; i.e. planned Department training events, public relations *events or involving* non-Department personnel, in public space or in and around public property or domains shall be edited/produced, reviewed and approved by Community Liaison Office.

## *Records Retention*

The Department strives to gain, develop and maintain the trust of the public it serves. The Department's primary intention for integrating UAS technology into its initial action hazard mitigation and response matrix is to increase the incident commanders' "situational awareness." Situational awareness is His/her ability to fully understand the challenges of a given incident in "real time," thereby providing critical information necessary to guide decision making. Ultimately, those decisions impact the amount of risk he/she is willing to assume with firefighters' lives.

In most cases, "real time" information will be captured solely to transmit "live" footage to a Department Incident commander or command post. Although there may be occasional benefits to sharing, recording and retaining visual data, this is **NOT** the intended purpose when a UAS is launched in public space or in and around public property or domains.

The Department or any entity associated with the Department UAS Program will not engage in the indiscriminate, unobscured publication of footage depicting non-Department personnel. Visual data shall never be displayed on the Department's public facing website or social media portals when not in the best interest of the public. It is the intent of the Department by policy and practice, to protect the privacy interests of members of the public or other "non-Department personnel."

The Department or any entity associated with the Department UAS Program will not permit any retained visual data to be merged with other surveillance databases, or retained solely for the purpose of mining the data at a later time by the Department or other agencies.

It will be the Department's policy and practice to retain visual footage after the conclusion of the emergent incident only where there is a specific, identified Department need. Such needs would include footage that captured an unusual occurrence; occurrence of serious building compromise or collapse; roof compromise or collapse; large area involvement with fire (conflagration, flashover, backdraft or explosion); injury or death to a firefighter or member of the public; or in connection with anticipated or pending litigation or compelling public interest.

The decision to retain any visual data captured in public space or in and around public property or domains will be balanced against the competing but equally important public concern for transparency. The retention of any visual footage or audio file will be in accordance with California Records and Information Program (CalRIM) and current records retention schedule in the Los Angeles Administrative Code, Chapter 1, Section 12, Subsection 3, 4 and 5.

## *Addressing Privacy*

To protect civil rights and civil liberties, the Los Angeles Fire Department shall:

(i) prohibit the collection, use, retention, or dissemination of data in any manner that would violate the First Amendment or in any manner that would discriminate against persons based upon their ethnicity, race, gender, national origin, religion, sexual orientation, or gender identity, in violation of law;
(ii) will only perform UAS activities in a manner consistent with the Constitution and applicable laws; and
(iii) make the departments Professional Standards Division (PSD) available to receive, investigate, and address, as appropriate, privacy, civil rights, and civil liberties complaints relating to the deployment of an LAFD UAS and/or the retention of information from such deployment.

# Program Oversight

## *The Board of Fire Commissioners (the Board)*

As the Department's civilian oversight body, the Board shall have the authority and responsibility of oversight of the Department UAS Program, its adherence to established policy and its overall efficacy. This oversight will include review of quarterly reports on UAS flights, mission objectives, any photographic or video images retained and a program benefits analysis.

As the Department UAS Program grows and evolves, there may be a need to add, delete or modify not only the specific uses and deployment scenarios but the written policy and guidelines. In the event substantive changes in the Department's use of UAV's, or the collection, retention, or access to such information occur, the Fire Chief will request review and approval of said changes by the Board and City Council's Public Safety Committee.

## *Independent Assessor*

The Board's independent assessor or other named designee will serve the role, consistent with the role of the Independent Assessor as set forth in the Charter, of reviewing the Department's use of UAS including whether the original rationale for deployment is met, whether the Department is complying with its stated policies and approved purposes, and whether the UAS program represents a worthwhile public expenditure. The subsequent report will be provided to the Board quarterly.

## *Program Authorizers*

A three-person panel, who report to the Emergency Operations Chief Deputy, made up of the UAS Program Coordinator and the Battalion Chiefs assigned to Air Operations and In-Service Training Section.

**Authorizer 1: Department UAS Program Coordinator -** Responsible for maintaining the compliance, performance and adherence to policy of the UAS Program. Responsible for all UAS equipment inventory, expenditures, maintenance and related reports.

**Authorizer 2: Air Operations Battalion Chief** – Responsible for ensuring proper maintenance of flight records, flight logs, training hours and licenses to meet FAA regulations for UAS pilots and observers. Responsible for ensuring UAS pilots and observers remain current on FAA rules and have a thorough working knowledge of Department Air Operations.

**Authorizer 3: In Service Training Section Battalion Chief** – Responsible for coordinating the development and delivery of training and training materials related to the Department UAS program. Also responsible for receiving, verifying and maintaining all prerequisite training, training records and related documentation for members entering into the Department UAS program.

**Program Instructors -** Department UAS Program Instructors will be Department members who have, at a minimum, maintained a Part 107 license, has completed an FAA recognized training course for "ground school" and flight operations, has a minimum of 25 hours of logged UAS flight in a quadcopter, hexicopter or higher or has equivalent flight, flight crew or flight observer training.

# Appendix

*DEFINITIONS*:

Data Technician: The person assigned to the Command Post to provide "real time" photo/video or other information, obtained from UAS mounted "sensors" to the Incident Commander (this role can be filled by the EIT/Captain I Adjutant).

Ground Control Station (GCS): Is a component of the Unmanned Aircraft System (UAS). Consists of the operator control unit (OCU), ground data terminal (GDT) and associated cables and antennas. This GCS provides the interface between the Pilot in Command (PIC) and the unmanned aircraft (UA).

Ground Data Terminal (GDT): Is a component of the Unmanned Aircraft System (UAS). Contains all the necessary equipment for the communication links between the UA and the operator control unit (OCU) for both data and video. Also contains a Global Positioning System (GPS) to enable the operator to determine the system's location.

Liaison: A person who interacts with incident personnel to avoid distracting the PIC and observer from their duties.

National Airspace (NAS): The National Airspace System is the network of the United States airspace, air navigation facilities, services, airports, regulations, procedures, technical information, manpower, and material shared jointly between the Federal Aviation Administration (FAA) and the military.

- Airspace is classified based on the activities therein which must be confined because e of their nature.
- There are 4 types of airspace that fall under 2 Categories.

Observer: The observer is responsible for visual observation and safety of the unmanned aircraft (UA) while in flight.

Operator Control Unit (OCU): Is a component of the Unmanned Aircraft System (UAS). Consists of the control transmitter or computer that is used to make changes to the aircraft position and altitude and the data/video transmitted by the UA.

Payload: The amount of equipment carried by the aircraft. Typically divided between command and control communications (radio receiver antenna) and video (camera, transmitter).

Person Manipulating the Controls: A person other than the remote pilot in command (PIC) who is controlling the flight of an UAS under the supervision of the remote PIC.

Pilot-In-Command (PIC): The person directly responsible for all operations including safety of the UA as described by Federal Aviation Regulations (FARS) 91.3.
Remote Controller: The wireless communication device that provides the interface between the operator and the UAS.

Remote Pilot in Command (Remote PIC or Remote Pilot): A person who holds a remote pilot certificate with a sUAS rating and has the final authority and responsibility for the operation and safety of a sUAS operation conducted under part 107.

Small Unmanned Aircraft (sUA): A UA weighing .5 pounds or more but less than 55 pounds, including everything that is onboard or otherwise attached to the aircraft, and can be flown

without the possibility of direct human intervention from within or on the aircraft.

Small Unmanned Aircraft System (sUAS): A small UA and its associated elements (including communication links and the components that control the small UA) that are required for the safe and efficient operation of the small UA in the NAS.

Sensors: High Resolution (zoom capable) cameras, Infrared/Thermal Sensors, Night Vision Image sensors, Gas/Chemical Sensors (Sniffers) - Not all use scenarios will use photo or video cameras

Unmanned Aircraft (UA): An aircraft operated without the possibility of direct human intervention from within or on the aircraft.

UAS: An Unmanned Aerial System also known as a drone

Video Camera Remote Controller: The person in control of the second or auxiliary remote control. Controls only the gimbal/sensor portion of the UAS. Needs constant communication with PIC for safe operation. (See night operations.)

Visual Observer (VO): A person acting as a flight crew member who assists the small UA remote PIC and the person manipulating the controls to see and avoid other air traffic or objects aloft or on the ground.