



Menlo Park Fire Protection District

Operational Memorandum (OM)

OM #	2017 – 001	Title	Unmanned Aircraft System (UAS)
To	All Personnel	Originator	UAS Program Manager
Effective Date	February 17, 2017	Suspense Date	February 17, 2018
Approved by/date	<i>Don Jang</i>	February 16, 2017	

PURPOSE AND SCOPE: The purpose of this policy is to establish safe, efficient and lawful operation of the Menlo Park Fire Protection District (MPFPD) Unmanned Aircraft System (UAS).

DEFINITIONS:

- a) **Unmanned Aircraft System (UAS):** Consists of an unmanned aircraft weighing less than 55 lbs., the command system, a secure control link, camera and other related safety support equipment, including ground control base stations and specialty vehicles designed to support unmanned flight operations.
- b) **Unmanned Aerial Vehicle (UAV):** Refers more specifically to the unmanned aerial vehicle itself. MPFPD has multiple UAV assets available within its fleet.
- c) **UAS Flight Crewmember:** A Pilot in Command, Visual Observer, or other persons assigned UAS duties for the purpose of flight.
- d) **Certificate of Authorization (COA):** Issued by the FAA and grants permission to fly within specific boundaries and parameters.
- e) **Pilot-in-Command (PIC):** Person who has final authority and responsibility for the operation and safety of flight, has been designated as the PIC before or during the flight, and holds the appropriate category, class and type rating, if applicable, for the conduct of the flight. The PIC is solely responsible for the input of commands/piloting during flight operations. Pilots are authorized to evaluate and accept or decline any mission or portion thereof due to safety concerns.
- f) **Visual Observer (VO):** The Visual Observer is responsible for the visual observation of the UAS while in-flight. The VO shall maintain a visual observation of the UAS while in-flight and alert the Unmanned Aircraft System Pilot of any conditions (obstructions, terrain, structures, air traffic, weather, etc.) which may affect the safety of flight. The VO is responsible for all on scene radio communications between the Incident Commander or designee and the Pilot-in-Command, in addition to all aviation related communications required by the FAA. The Observer shall stay in close proximity to the Unmanned Aircraft System Pilot to instantly relay information. The Observer shall be certified in the operation of the UAS by successful completion of an approved training course. The Observer must meet requirements established by the FAA.
- g) **Notice to Airman (NOTAM):** Time critical aeronautical information which is provided to air traffic control towers within a (5) five mile radius of UAS flight and is of either a temporary nature or not sufficiently known in advance to permit publication on aeronautical charts or in other operational

publications and receives immediate dissemination via the National NOTAM System.

- h) **Visual Line of Sight (VLOS):** Visual contact between PIC or VO and a UAS sufficient to maintain safe operational control of the aircraft, known location, and be able to scan the airspace in which it is operating to see and avoid other aircraft or objects aloft or on the ground.

POLICY: It is the MPFPD's policy that MPFPD personnel trained in the use of the UAS will use them to protect the lives and property of citizens and first responders in full compliance with all applicable laws and regulations, including but not limited to State and Federal Constitution and Federal Aviation Authority (FAA) regulations.

The use of a UAS can support first responders in emergency situations by providing an aerial perspective which will enable first responders to detect dangers that could not otherwise be seen and support incident commanders in tactical decision applications. The UAS can also be utilized for approved training & evaluation missions, pre-emergency planning, public education, disaster pre-planning, and disaster deployments.

AUTHORITY: MPFPD has obtained a Certificate of Authorization (COA) from the FAA in order to conduct operational, training and evaluation missions, pre-fire planning, pre-emergency planning, public education, disaster pre-planning and disaster deployments.

PROCEDURE:

Requests for UAS deployments will be made through the on duty MPFPD Battalion Chief directly or via San Mateo County Dispatch. Approval for requests will be determined by on the duty MPFPD Battalion Chief by initiating a UAS Call Out procedure. If the request comes directly to MPFPD Battalion Chief, the information will be gathered and communicated to San Mateo County Communications Dispatch @ 650.363.4963

UAS Call Out procedure: The Battalion Chief will gather the information pertaining to the request and contact the Pilot in Command and notify him/her of the mission with all pertinent information available. The Pilot in Command will determine if the UAS can be deployed safely and practically and either accepts or declines the mission. The on duty Battalion Chief will make all notifications of mission acceptance or declination directly to the requesting party or through San Mateo County Dispatch.

FLIGHT OPERATIONS:

1. All emergency response missions shall be approved by the on duty Battalion chief and/or the Incident Commander.
2. A UAS shall only be operated by personnel, both pilots and crew members, who have been trained and qualified in the operation of the system. MPFPD personnel with UAS responsibilities, including chief officers, shall be provided training in the policies and procedures governing UAS use.
3. **Pilot in Command (PIC)** reports to the Incident Commander, Division / Group Supervisor or designee as determined by the Incident Commander. The PIC will accept or decline the mission and has final authority and responsibility for the operation and safety of flight. The PIC will determine the need of a Visual Observer and communicate that information to the IC any time before or during the mission. MPFPD UAS Pilots are identified on the PLATOON ROSTER.
4. **Visual Observer** if assigned, reports to the Pilot in Command and is responsible for radio communications between the PIC and the Incident Commander, Division / Group Supervisor or designee as determined by the Incident Commander, when face-to-face communication is not possible.

5. **Communications** between UAS operations and Incident Command is best suited for face-to-face method unless a Visual Observer is assigned. Pilots in Command of a UAV do not have the ability to operate a communications device (portable radio, cellular phone, etc.) unless true hands-free technology is being utilized.
6. **Identification:** The Pilot in Command, Visual Observer, or other persons assigned UAS duties for the purpose of flight will be identified by high visibility clothing with the appropriate UAS position identifier.
7. When the UAS is being flown, Unmanned Aircraft System Pilots shall take steps to ensure the camera is focused only on the areas necessary to the mission.
8. All flights will remain in FCC compliant, GPS reception mode and comply with FAA flight restrictions near designated Class A & B airports and municipal airports.
9. Airport towers within 5 miles of flight will be notified by the PIC, VO or designee. All pertinent information regarding the operation will be provided to the tower. A NOTAM (Notice to Airmen) will be filed electronically or by telephone as required by the FAA COA. At all times the flight will comply with the criteria provided in the FAA COA.
10. The administration, safety policy, training requirements, general operating procedures and pre/post flight actions are contained within the MPFPD UAS Operations Manual.
11. All flights shall be documented on the appropriate mission log form including flight time. The flight objective, type of mission and name of the supervisor approving the operation shall be documented.
12. The UAS shall not be equipped with weapons.

Mission use cases: The authorized missions for the MPFPD UAS may include but are not limited to:

1. In response to specific requests from local, state or federal fire authorities for fire response and prevention.
2. In response to any transportation type emergencies as defined in Title 49 of the Code of Federal Regulations.
3. Search and Rescue (SAR) missions as defined in California Government Code Section 26614.
4. Structural collapse and building evaluations for rescue, safety and occupancy.
5. In response to hazardous materials spills or hazardous materials investigations.
6. Disaster response and recovery to include natural or human caused disasters including a full overview of a disaster area for post incident analysis and documentation.
7. Public Education development, training videos & documentation.
8. Pilot training missions which will be scheduled and directed by the UAV program coordinator under authority of the Training Chief or his/her designee.
9. Explosive ordnance disposal (EOD) missions.

10. Any missions that deploy fire based tactical paramedics for on scene evaluation and monitoring.
11. Public safety and life preservation missions to include but not limited to hostage situations, active shooters, threats for use of incendiary or explosive devices.
12. Post fire or incident investigation to assist with cause, origin and documentation.
13. Providing close air support in the form of real time tactical information and personnel accountability on a wide range of emergency scenes.

Data Retention and Processing: Upon completion of each UAS mission the recorded data shall be reviewed and evaluated. All retained data shall be maintained or destroyed pursuant to the MPFPD records retention policies and in compliance with applicable laws and regulations.

Protection of Rights and Privacy Concerns: Unmanned Aircraft System Pilots and Observers will consider the protection of individual civil rights and the reasonable expectation of privacy as a key component of any decision made to deploy the UAS. Each Unmanned Aircraft System Pilot and Observer shall ensure that operations of the UAS are consistent with Fire District, state, and federal law. All video and audio obtained from an active incident will be retained in accordance to the Fire District's data retention policy.