

Sacramento Police Department
CONTINUING PROFESSIONAL TRAINING (CPT) 2021
UNMANNED AERIAL SYSTEMS

Statement of Purpose: The purpose of this course is to update and enhance officers' understanding of the capabilities and resources provided by Unmanned Aerial Systems operated by the Sacramento Police Department.

- I. What is a UAS?
 - a. UAS vs. Drone
 - b. Short Video of FPV video of the year
- II. Agencies using UAS
- III. Our department approved missions
 - a. Video Examples
- IV. Current SPD UAS unit configuration
 - a. Duties, outdoor – Mavic / Matrice
 - b. Duties, indoor – Micro / Mini FPV
- V. Explain what a COA is?
- VI. Part 107
 - a. Explain the Rules of 107
 - b. How do they apply to SPD?
 - c. How do they apply to public?
- VII. UAS Laws | Department Policy
 - a. How the 4th Amendment applies?
 - b. New case law – *John McKelvey v. Anchorage (2020)*
 - c. Peeping 647(j)(1) PC
- VIII. Enforcement
 - a. FAA is an Administrative organization
 - b. Consensual contact / Ramp Check
 - c. Information Reports
 - d. Cannot detain just because flying over government building
- IX. Authorization
 - a. Currently, with Watch Commander approval
 - b. Future, to obtain from district supervisor
- X. Visual Observers
 - a. What is a Visual Observer (VO)?
 - i. Member of the flight crew
 - ii. Observe aircraft, location, heading, altitude, attitude
 - iii. Advise of hazards
 - iv. Maintain communication

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UNMANNED AERIAL SYSTEMS

- b. Why is a VO needed?
 - i. COA requires VO
 - ii. Second set of eyes to enhance safety
- c. Flight Crew Organization
 - i. Flight crew consists of RPIC, VO and other flight crew
 - ii. RPIC reports to IC but is pilot before LEO
 - iii. RPIC makes final call on if flight can happen
 - iv. New policy protects pilot
- d. RPIC to the VO
 - i. Conduct pre-flight and post flight
 - ii. Inform VO when moving UAS and intention
 - iii. Ask for help if needed
- e. VO to the RPIC
 - i. Follow the RPIC instructions
 - ii. Advise of hazards
 - iii. Be a 2nd set of eyes
 - iv. Inform RPIC of changing conditions
- f. VO must have direct observation no vision enhancing product
 - i. Discuss TBVLOS
 - ii. 50 feet above within 1500 feet of pilot
- g. Capabilities and limitations (Show aircraft while talking about them)
 - i. Pilot in charge makes the ultimate determination of if a flight can take place
 - ii. Flights of DJI products are stream able to IC
 - iii. Mavic 2 enterprise
 - 1. Dual sensor for both color and FLIR
 - 2. Can carry a spotlight or speaker
 - 3. Max operating temperature 104 degrees
 - 4. Max wind speed 23 mph
 - 5. Max speed of UAS 44.7 mph
 - 6. Max flight time approx. 18 min
 - 7. Show video from axon of deployment
 - iv. Matrice 300 RTK
 - 1. Equipped with FLIR (4x zoom), Zoom camera (200X), wide angle camera and laser range finder
 - 2. 12000 lumen spotlight
 - 3. Can carry 3 lbs. of cargo
 - 4. Max operating temperature is 122 degrees
 - 5. Max wind speed 33.5 mph
 - 6. Max speed 51 mph
 - 7. Max flight time approx. 35 min
 - 8. Show video of zoom and FLIR
 - v. Micro UAS
 - 1. Used mainly for indoor use (Would like to discuss that micro's/mini's are not just for "tactical" scenarios and they can

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- also be deployed during patrol operations)
- 2. Flown completely by remote input, no GPS like others
- 3. Approx. 5 min flight time
- 4. Pilot flies with goggles
- 5. Handheld display can be monitored by TL or supervisor
- 6. Demo micro around room
- h. Potential future mission sets / additional pilots / equipment evolution