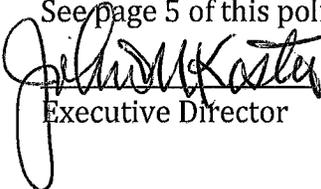


**Policy & Procedures
County Road Administration Board**

Title: Unmanned Aerial Systems (UAS) Operations and Policy Manual

Applies: This policy applies to all employees of CRAB.

References: See page 5 of this policy

Approved by: 
Executive Director

Adoption Date: December 19, 2017

1. Preface

The following operating policy and procedures are intended to promote safe, efficient and lawful operation of the Washington State County Road Administration Board (CRAB) Unmanned Aerial Systems (UAS) program. Safe operation & privacy above all else are the primary goals of every UAS operation performed by CRAB regardless of the nature of the mission

2. Protection of Civil Rights and Privacy

UAS Supervisors, UAS Pilots, and Systems Operators will ensure the protection of civil rights and reasonable expectations of privacy which are key components in any decision to deploy the UAS. UAS supervisors, UAS pilots, operators will minimize the extent that UAS operations intrude on the citizens of Washington State.

- a. During UAS missions the camera will be turned away from occupied structures to minimize inadvertent video or still images of uninvolved persons.
- b. All videos and still images will be maintained in strict compliance with Washington State County Road Administration Board (CRAB) policies and procedures.
- c. The Washington State County Road Administration Board (CRAB) UAS program will operate strictly within the law and regulations.

3. Authorized UAS Missions within Washington State County Road Administration Board (CRAB)

- a. **Training/Mapping/Surveying/Infrastructure Inspections.** Provide Washington State County Public Works training and demonstration tool to provide mapping and surveying of lands within the county and to assist with road and bridge projects, landfill's, inspection of infrastructures such as bridges, updating and maintaining the county infrastructure database.
- b. **Disaster Response.** Provide situational awareness and damage assessment to Emergency Management, Command Staff, County Public Works, and First Responders during natural and man-made disasters by providing real-time video, still photos, and other electronic data of the disaster area.

4. Definitions

- a. **UAS:** Unmanned Aerial Systems which includes; Control System such as the Ground Control Station (**GCS**), Control link (Specialized Data Link), laptop, and other related support equipment.
- b. **UAV:** Unmanned Aerial Vehicle
- c. **FAA:** Federal Aviation Administration
- d. **FAR:** Federal Aviation Regulations
- e. **CFR:** Code of Federal Regulations
- f. **COA:** Certificate Of Authorization or Waiver issued by the FAA
- g. **VLOS** Visual Line of Sight
- h. **BVLOS** Beyond Visual Line of Sight
- i. **NAS:** National Airspace System (created by the FAA to protect persons and property on the ground and create a safe and efficient airspace environment for aviation.)
- j. **PIC:** Pilot-in-Command
- k. **RPA:** Remotely Piloted Aircraft
- l. **VFR:** Visual Flight Rules

5. Administration

- a. The policies and procedures contained in this manual are issued by the authority of the Washington State County Road Administration Board (CRAB).
- b. This manual is considered a supplement to existing CRAB policy, FAA regulations and policy, Washington State regulations and UAS aircraft manufacturer's flight operations manual.
- c. This manual will be reviewed periodically and updated when other rules, regulations or policy require changes or when changes are deemed necessary.

6. Organization

- a. UAS operated by the Washington State County Road Administration Board (CRAB) are considered "Public Aircraft Operations" by the FAA.
- b. Supervision and command of the UAS program is conducted by the Washington State County Road Administration Board (CRAB) the Design Systems Program Manager. All UAS Team members will be trained in accordance with CRAB UAS Training Standards and be issued a copy of this UAS Operations and Policy manual.
- c. UAS operated by CRAB can be regulated by FAA 14 CFR part 107, a blanket public Certificate of Waiver or Authorization (COA), or an emergency COA (e-COA) under special circumstances.

7. Personnel

- a. **UAS Supervisor** supervises the UAS Team. Has approval authority for all UAS missions and will notify the CRAB Chain-of-Command when the UAS is deployed.
- b. **UAS Chief Pilot** supervises the UAS Team and ensures compliance with all FAA regulations and policy, Washington State regulations and Washington State County Road Administration Board (CRAB) policy. Will perform UAS Supervisor duties in their absence. The Chief Pilot will ensure that all UAS Pilots, Observers and Systems Operators are trained to current standards & regulations. The Chief Pilot will maintain the UAS Team training records.
- c. **UAS Pilots** will be trained by the UAS manufacturer guidelines and will comply with all requirements as outlined in FAA regulations per Part 107 and Washington State Legislative regulations and Washington State County Road Administration Board (CRAB) Policy. It will also be the UAS Pilots duty to operate the UAV in a safe and effective manner in accordance with the UAV manufacturer's operator's manual.
If UAS pilots do not possess an FAA Part 107 pilot certificate they must successfully pass either the FAA's pilot knowledge exam or complete an FAA-approved UAS pilot training curriculum. If operating in an area that requires Air Traffic Controller communication, additional pilot training may be required if the UAS pilot is not a certificated manned-aircraft airman.
Pilots will be designated as either Pilots-in-Command (PIC) or Supplemental pilot. The designated PIC is the pilot responsible for the UAS flight operation. The PIC may be augmented by supplemental pilots; however the PIC retains complete and overall responsibility of the flight, regardless of who may be piloting the UAS.
- d. **UAS Observers/Systems Operators** will be trained to assist the UAS Pilot, if needed, in scanning the airspace surrounding UAS Operations and interpreting downlink data received from the UAS. Additional training requirements for the UAS Observers/Systems Operators are listed in section 10 paragraph c below.

8. Operations

- a. The Washington State County Road Administration Board (CRAB)/CRAB UAS program will operate strictly within the law and regulations.
- b. UAS flights will comply with either FAA COAs or FAA CFR part 107. UAS flights will operate with the limitations of either the COA or the part 107.
- c. The chief pilot and observer, if necessary, will operate as a team whenever there is a UAS flight.
- d. Pilots will be designated as either Pilots-in-Command (PIC) or Supplemental pilot. The designated PIC is the pilot responsible for the UAS flight operation. The PIC may be augmented by supplemental pilots; however the PIC retains complete and overall responsibility of the flight, regardless of who may be piloting the UAS.
- e. Air Support mission briefings and Risk Assessments will be completed and briefed prior to each flight.

- f. Pre-flight and post-flight inspections of the UAS will be completed by the pilot using the manufacturer's operator's manual. Pre-flight inspection and any discrepancies will be logged in the UAS logbook.
- g. Pre-flight, in-flight and post-flight checklists will be developed and used by the pilot.

9. Safety

- a. The CRAB UAS SOP covers all aspects of Aviation Safety and UAS operations fall within the scope of the SOP. All UAS pilots and observers/systems operators will be familiar with the UAS SOP.
- b. It is the duty of every member of the UAS Team to contribute to the goal of continued safe operations. This contribution may come in many forms and includes always operating in the safest manner practicable and never taking unnecessary risks.

10. Training

- a. The CRAB Chief Pilot will oversee the UAS Training Program.
- b. Pilots and Observers/Systems Operators will have a training folder located at the CRAB UAS office that includes certificates of training, and training documentation.
- c. Observers/Systems Operators must complete sufficient training to communicate to the pilot any instructions required to remain clear of conflicting traffic. This will include knowledge of the rules and responsibilities described in 14 CFR 91.111, *Operating Near Other Aircraft*; 14 CFR 91.113, *Right-of-Way Rules; Except Water Operations*; and 14 CFR 91.155, *Basic VFR Weather Minimums*; knowledge of air traffic and radio communications, including the use of approved ATC/pilot phraseology; and knowledge of appropriate sections of *the Aeronautical Information Manual*.
- d. Recurrent Training. Pilots who do not have documented flight time within 90 days will demonstrate proficiency in their duties to the Chief Pilot or a UAS pilot who is current and proficient. PIC's must demonstrate three takeoffs and three landings in the specific UAS in the previous 90 days to remain current. Currency flights may be supervised by the Chief Pilot or another current UAS PIC.
- e. Crew Resource Management Training (CRM). All UAS Pilots and Observers/Systems Operators will complete CRAB Crew Resource Management initial training and annual CRM training. CRM for UAS aircrew members will emphasize situational awareness and effective communication during each UAS flight operation.

11. Maintenance

- a. Pre-flight and post-flight inspections of the UAS will be completed by the pilot using the manufacturer's operator's manual. Pre-flight inspection and any discrepancies will be logged in the UAS logbook.
- b. Pre-flight, in-flight and post-flight checklists will be developed and used by the pilot.

- c. Discrepancies noted during pre-flight or post-flight inspections will be noted in the UAS logbook.
- d. Scheduled and unscheduled maintenance on the UAS will be performed in accordance with the manufacturer's guidelines.

Reference Guide

Washington State County Road Administration Board (CRAB) UAS Policy

MEMORANDUM OF UNDERSTANDING BETWEEN FEDERAL AVIATION ADMINISTRATION, UNMANNED AERIAL VEHICLE INTEGRATION OFFICE AND THE U.S. DEPARTMENT OF JUSTICE, OFFICE OF JUSTICE PROGRAMS, NATIONAL INSTITUTE OF JUSTICE CONCERNING OPERATION OF UNMANNED AERIAL VEHICLE BY LAW ENFORCEMENT AGENCIES

(attached)

INTERIM REPORT ON THE DEPARTMENT OF JUSTICE'S USE AND SUPPORT OF UNMANNED AERIAL VEHICLE

U.S. Department of Justice Office of the Inspector General Audit Division

Report 13-37 September 2013R

<https://oig.justice.gov/reports/2013/a1337.pdf>

On July 14, 2014 the FAA issued an Air Traffic Organization Policy, Unmanned Aircraft Operations in the National Airspace System (NAS), to consolidate all current regulations on UAS in the national airspace into one document. Reissued Oct 27, 2015

[http://www.faa.gov/documentLibrary/media/Notice/N JO 7210.889 Unmanned Aircraft Operations in the NAS.pdf](http://www.faa.gov/documentLibrary/media/Notice/N%20JO%207210.889%20Unmanned%20Aircraft%20Operations%20in%20the%20NAS.pdf)

WASHINGTON STATE LEGISLATURE:

Concerning technology-enhanced government surveillance.

(Including use of public Unmanned Aerial Vehicle)

<https://legiscan.com/WA/text/SB5714/id/1099755>

<https://legiscan.com/WA/text/HB1639/id/1092835>

<http://apps.leg.wa.gov/billinfo/summary.aspx?bill=1093#documents>