

## Unmanned Aircraft Systems (UAS) Procedures

### Approval Process

#### Procurement

- A. The procurement of an agency owned UAS requires the approval of the Deputy Director or designee.
- B. The requesting Division will submit a detailed explanation and justification for a particular aircraft, the particular purpose, time, manner and location of use. Identify cost efficiencies or improved quality of data or improved safety over an existing method or process. Use the Request UAS Form and submit to the UAS Coordinator.
- C. Procurement will be in accordance with applicable statutes, rule, and UDOT Procurement policies and procedures.

#### Contracting

- A. Contracting for UAS service providers requires the approval of the Deputy Director or designee.
- B. The requesting Division will submit a detailed explanation outlining the ownership, purpose and deliverable. Identify cost efficiencies or improved quality of data or improved safety over an existing method or process. Use the Request UAS Form and submit to the UAS Coordinator.
- C. UAS service providers contracting will be in accordance with UDOT Consultant Services policies and procedures or UDOT Procurement policy and procedures based on need.
- D. All contracted UAS service providers will follow all requirements as defined in the UDOT UAS Policy and the UAS Procedures.

### Roles and Responsibilities

#### Deputy Director or designee

- Provides approval or disapproval for all UAS requests
- Provides updates on UAS use to the Governor and legislature as requested

#### UAS Committee

- Coordinates UAS Committee business related to UAS needs
- Reviews UAS use requests
- Recommends approval or disapproval of UAS use requests
- Maintains and updates the UAS Procedures
- Provides approval of UAS Procedures updates

#### UAS Coordinator

- Manages all agency owned UAS
- Coordinates purchases of UAS
- Coordinates UAS flights
- Facilitates training as needed
- Ensures proper individual credentials in place prior to flights
- Reviews flight plans and compliance with FAA regulations
- Maintains UAS database of flights, captured data, and equipment

#### Project Development Director; Region Director; Division Director

- Reviews all UAS requests as applicable to area of need

## **Federal Law**

- A. UAS use will follow all requirements as listed in Title 14 of the Code of Federal Regulations (14 CFR) Part 107.
- B. UAS use in a manner not defined in Part 107 will obtain FAA approval through a Certificate of Waiver or Authorization (COA).

## **Protection of Privacy**

- A. UAS pilots will limit operations to the specific approved purpose of the project and employ reasonable precautions to avoid capturing images of the public except those that are incidental to the project.
- B. UAS pilots will complete a thorough review of the flight plan prior to flight to determine if privacy is a concern.

## **Purpose of use**

- A. Permitted UAS use includes, but is not limited to, aerial photography, photogrammetry, bridge inspection and planning, geotechnical field investigations, Light Detection and Ranging (LiDAR) applications, public outreach, mapping construction sites and conditions, asset management, asset inspections, traffic monitoring, incident management, disaster response and training exercise.
- B. The purpose of each flight will be documented.

## **Policy Management**

- A. UAS Procedures and Department implementation will be reviewed annually to keep up with technology and respond to public concerns.
- B. UAS Procedures will be available online. The UAS Committee will maintain the UAS Procedures.
- C. The Department will conduct public education and outreach regarding the UAS Policy and UAS Procedures.

## **Safety Requirements**

- A. UAS use will follow all requirements as listed in Title 14 of the Code of Federal Regulations (14 CFR) Part 107.
- B. UAS use in a manner not defined in Part 107 will obtain FAA approval through a Certificate of Waiver or Authorization (COA).
- C. All UAS flights require a flight plan detailing, date, time, area to be flown, altitude, and purpose of flight.
- D. Prior to any UAS flight the UAS maintenance log must be reviewed and accepted.
- E. Prior to any UAS flight the study area will be reviewed using the FAA B4UFLY App to ensure flight is not prohibited in the area.
- F. A preflight inspection of the UAS by the pilot is required prior to takeoff to ensure the UAS is airworthy for flight.
- G. A post flight inspection of the UAS by the pilot is required after flight to document any problems or deviations from the original flight plan.
- H. Prior to use all UAS pilots will receive Department approved training on proper operation and care.
- I. UAS pilots must understand the Department's policy and procedures on UAS operations before flight is conducted.

## Training Requirements

- A. UAS operations will be conducted by trained UAS pilots as required by FAA and Part 107.
- B. UAS pilots will attend UAS Pilot Ground School to understand the National Airspace System (NAS) and learn the rules associated with safe flight within the NAS. This requirement does not apply if the individual has a current UAS pilot license.
- C. UAS pilots will complete the Computer Assisted Testing Service (CATS) Testing for UAS pilots and obtain a passing score. This requirement does not apply if the individual has a current UAS pilot license.
- D. UAS pilots will maintain an UAS pilot license at all times.
- E. UAS pilots will register with the UAS Coordinator.
- F. UAS training areas and test ranges will be created where training and proficiency checks can be accomplished in a safe manner.
- G. UAS pilots will be required to execute two test flights with the UAS Coordinator prior to self-performing any flight.
- H. All UAS pilots will undergo a pilot proficiency check consisting of aeronautical knowledge areas, areas of operations, and tasks required for safe operation every 24 months.

## UAS Equipment

- A. All UAS will be registered with the FAA and display the appropriate markings as required.
- B. All UAS equipment will require an identification number.
- C. All UAS equipment will be locked, stored and checked out by the UAS Coordinator.
- D. Equipment malfunctions will be brought to the attention of the UAS Coordinator as soon as practical.

## UAS Maintenance

- A. All UAS equipment will be properly maintained according to the manufacture's recommendations and will undergo a preflight and post flight inspection along with an annual inspection.
- B. All maintenance and annual inspections will be documented in the maintenance log for the each individual UAS equipment.
- C. The UAS maintenance log will document at a minimum the following information: UAS identification number, date, maintenance performed, inspection performed and additional notes for comments.

## Documentation and Data Retention

- A. All Request UAS Forms will be stored in the UDOT ProjectWise UAS area per the UAS Coordinator. Use ProjectWise UAS area and UDOT UAS naming convention.
- B. All data derived from internal UAS use, contracted UAS service providers, or for the Department use through projects will be maintained according to the Department policies.
- C. All raw data will be stored in the UDOT ProjectWise System including data, images, video, and metadata captured. Use ProjectWise UAS area and UDOT UAS naming conventions.
- D. All processed data will be stored on other servers subject to the approval of the Division Director in coordination of the UAS Coordinator.

## Steps for Use

- Establish a flight plan include at a minimum:
  - Airspace review
  - Standard weather briefing
  - Area to be flown
  - Limitations
  - Obstacle clearance
  - Purpose of flight
  - Time of flight
  - Expected duration of flight
  - Communication plan
  - Emergency/contingency procedures
- Complete a Request UAS Form
- Submit the Request UAS Form to the UAS Coordinator two weeks prior to planned flight for review
- Check out UAS equipment from UAS Coordinator once approved for use
- Complete preflight checklist within the UAS Management Software for the appropriate UAS
- Complete takeoff checklist within the UAS Management Software for the appropriate UAS
- Perform post flight checklist after flight within the UAS Management Software for the appropriate UAS
- Copy all data, images, video, metadata captured into ProjectWise UAS area and use UDOT UAS naming conventions.
- Return UAS equipment to UAS Coordinator

## General Flight Requirements

- A. Allowed flight times: flight can be accomplished during daylight or in civil twilight (30 minutes before official sunrise to 30 minutes after official sunset, local time) with appropriate anti-collision lighting.
- B. Battery life: flight must be conducted with enough remaining battery to ensure safe landing at home point or other landing point determined on flight plan and with enough reserve battery life to ensure safe landing at alternative site if landing at primary landing site is not possible.
- C. Weather visibility: the minimum weather visibility distance is three miles from your control station.
- D. Flight altitude: the maximum flight altitude is 400 feet above the ground, and higher if the UAS remains within 400 feet of a structure.
- E. Flight speed: the maximum flight speed is 100 mph (87 knots).

## Unauthorized Uses

- A. Intentionally observing, following, or zooming in on any vehicle, license plates, on people either inside or outside of vehicles, on residences, businesses, or other buildings, especially in non-public areas where individuals have an expectation of privacy, within the flight area is strictly prohibited.

## Consequences of Misuse

- A. All unauthorized uses can result in legal action by third parties. Even without any third party legal action, individuals operating UAS contrary to the law, policy or procedures are subject to disciplinary action, up to and including termination.