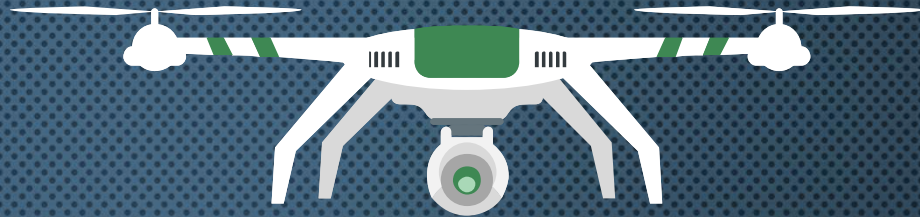


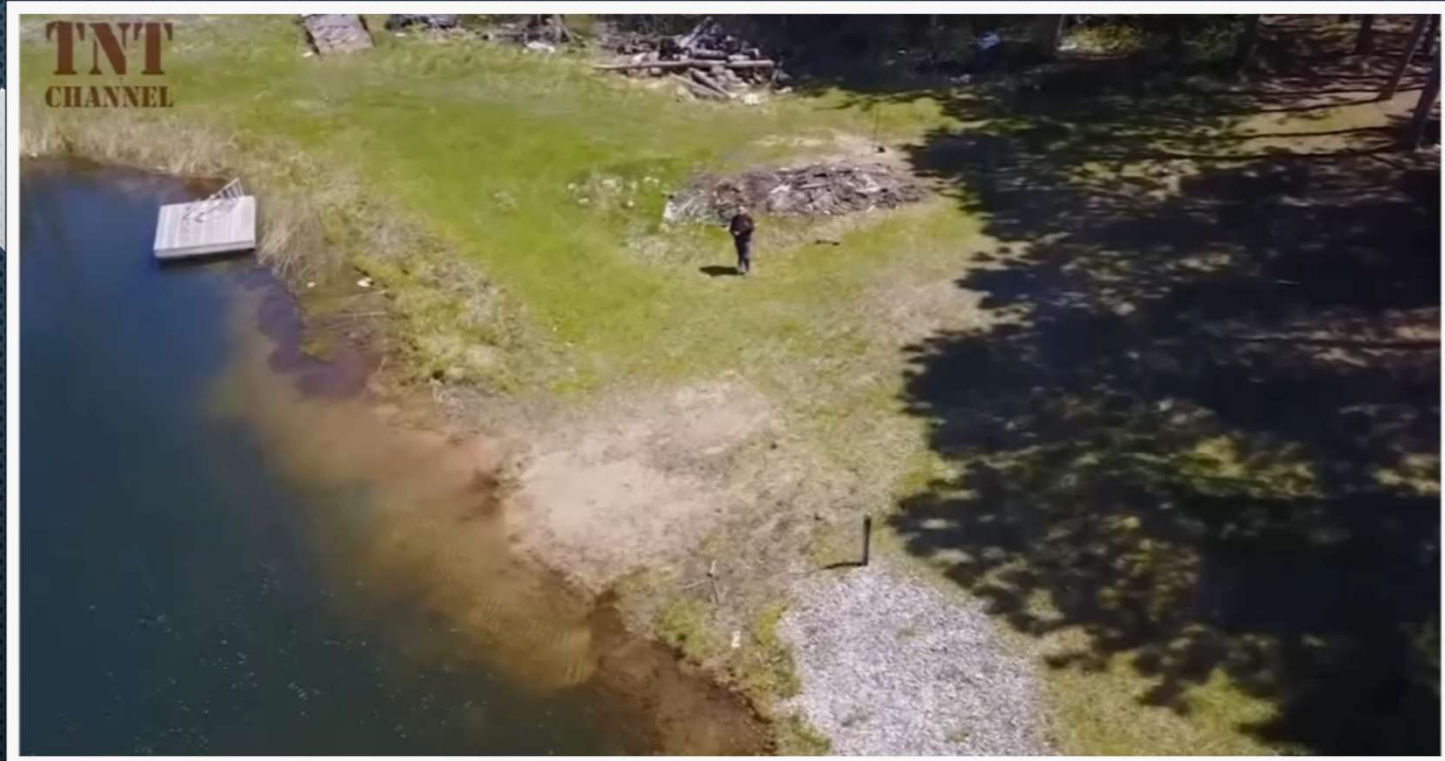
Adam C. Falco
Senior Assistant City
Attorney and Police
Legal Advisor



Unmanned Aircraft “To Infinity and Beyond”



Boom!



Boom!



Axon Drone



FOX
BUSINESS
NETWORK

**NEWS
ALERT**

TASER MAKER'S DRONE DEAL

@VarneyCo



@FOXBUSINESS

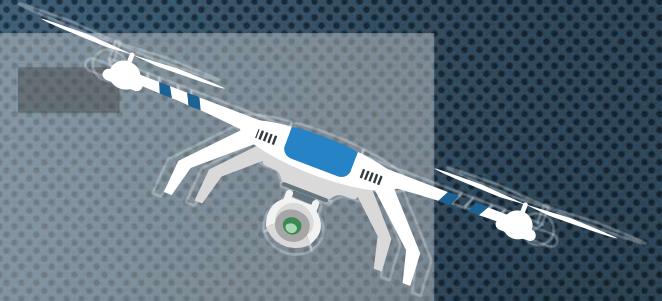
Play (k)



0:05 / 2:55



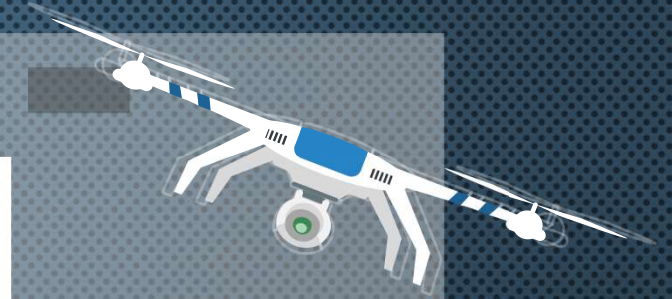
Drones...



Drone, UAS, UAV Size

Class by Size:

1. Very small UAVs
2. Micro or Nano UAVs
3. Small UAVs
4. Mini UAVs
5. Medium UAVs
6. Large UAVs

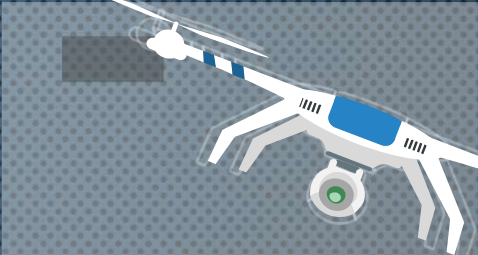


Drone

Class Size by range by DOD:

1. Very low cost close-range UAVs
2. Close-range UAVs
3. Short-range UAVs
4. Mid-range UAVs
5. Endurance UAV

1. Very low cost close-range UAVs
2. Close-range UAVs
3. Short-range UAVs
4. Mid-range UAVs
5. Endurance UAV





DOD Class Size

Category	Size	Maximum Gross Takeoff Weight (MGTW) (lbs)	Normal Operating Altitude (ft)	Airspeed (knots)
Group 1	Small	0-20	<1,200 AGL*	<100
Group 2	Medium	21-55	<3,500	<250
Group 3	Large	<1320	<18,000 MSL**	<250
Group 4	Larger	>1320	<18,000 MSL	Any airspeed
Group 5	Largest	>1320	>18,000	Any airspeed

*AGL = Above Ground Level

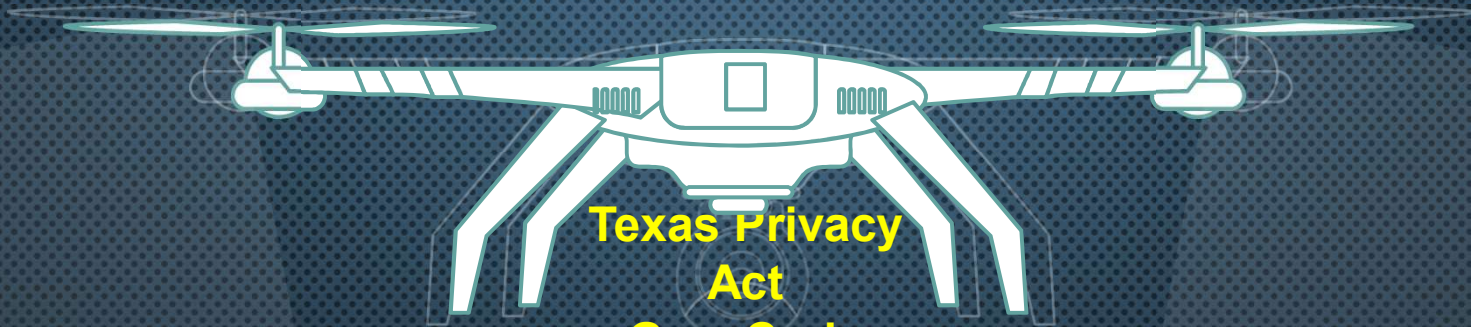
**MSL = Mean Sea Level



Large Drone



Texas Law



Texas Privacy Act Gov. Code Chapter 423

01

Definitions, Offenses, Civil
Action



Images Not Subject to
Disclosure, Applicability

02

03

Law Enforcement Rules



Reporting

04



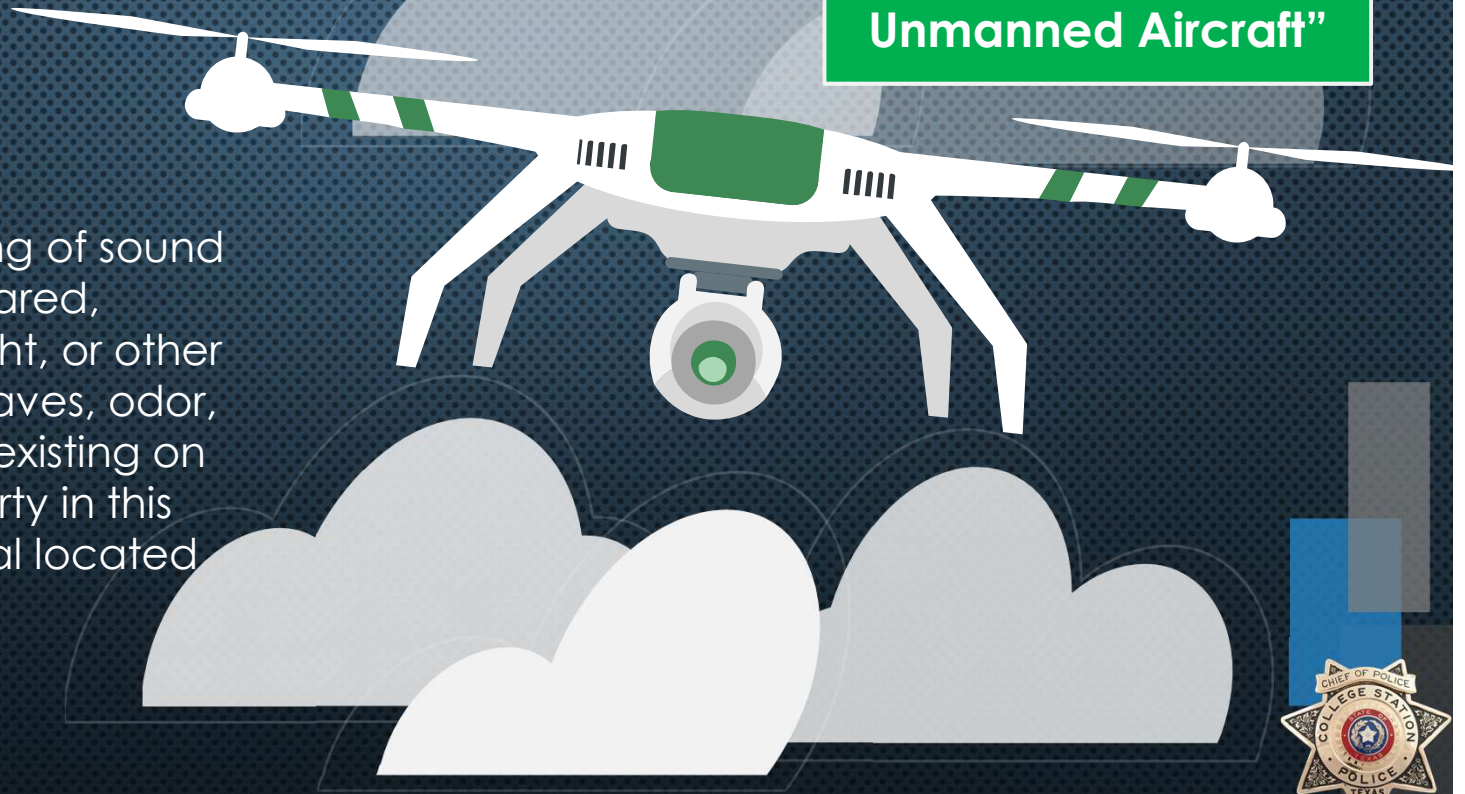
Texas Law

Government Code Chapter 423 "Use of Unmanned Aircraft"

423.001

Definition: Image

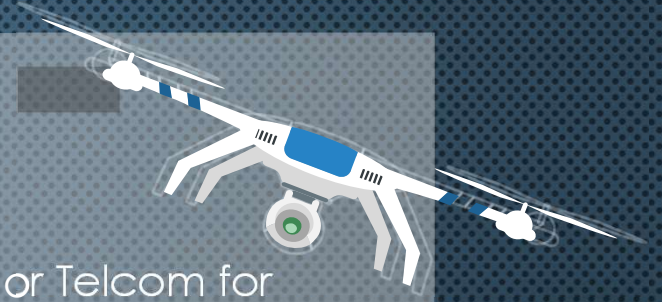
means any capturing of sound waves, thermal, infrared, ultraviolet, visible light, or other electromagnetic waves, odor, or other conditions existing on or about real property in this state or an individual located on that property.



423.002 NonApplicability

It is lawful to Capture an image using and UA-

1. Professional and Scholarly R and D
2. Testing Airspace designed by FAA for national airspace
3. Military
4. Image captured by satellite for Mapping
5. Electric, Natural Gas or Telcom for maintenance, repair, vegetation and routing
6. With consent of landowner who lawfully occupies real property in image
7. Valid Search Warrant
8. If the image is captured by a law enforcement authority or a person who is under contract with or otherwise acting under the direction or on behalf of a law enforcement authority:



423.002 NonApplicability

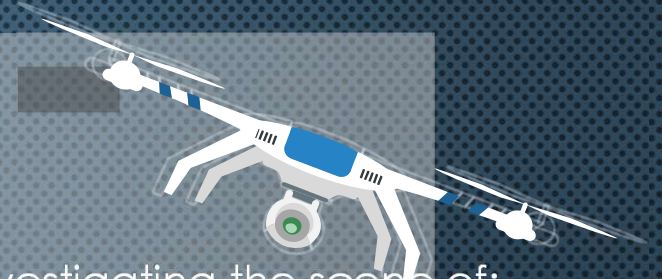
It is lawful to Capture an image using and UA-

(A) in immediate pursuit of a person law enforcement officers have reasonable suspicion or probable cause to suspect has committed an offense, not including misdemeanors or offenses punishable by a fine only;

(B) for the purpose of documenting a crime scene where an offense, not including misdemeanors or offenses punishable by a fine only, has been committed

(C) for the purpose of investigating the scene of:

- (i) a human fatality;
- (ii) a motor vehicle accident causing death or serious bodily injury to a person; or
- (iii) any motor vehicle accident on a state highway or federal interstate or highway;



423.002 NonApplicability

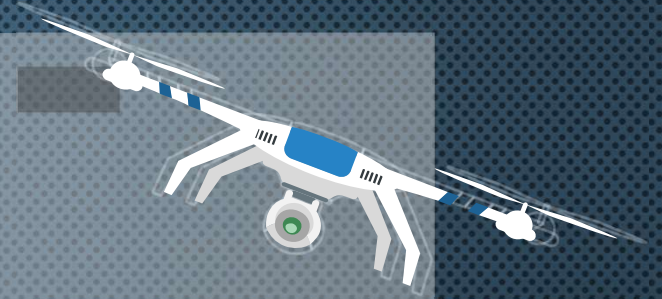
It is lawful to Capture an image using and UA-

(D) in connection with the search for a missing person;

(E) for the purpose of conducting a high-risk tactical operation that poses a threat to human life;

(F) of private property that is generally open to the public where the property owner consents to law enforcement public safety responsibilities; or

(G) of real property or a person on real property that is within 25 miles of the United States border for the sole purpose of ensuring border security;

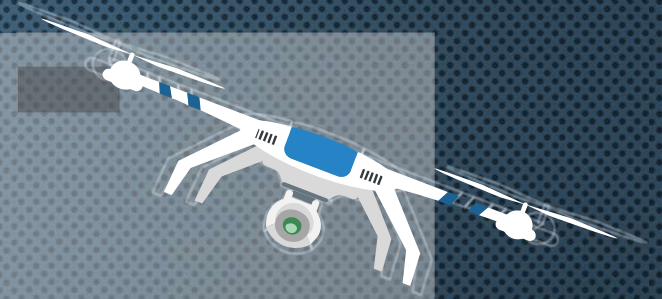


423.002 NonApplicability

It is lawful to Capture an image using and UA-

(9) if the image is captured by state or local law enforcement authorities, or a person who is under contract with or otherwise acting under the direction or on behalf of state authorities, for the purpose of:

- (A) surveying the scene of a catastrophe or other damage to determine whether a state of emergency should be declared;
- (B) preserving public safety, protecting property, or surveying damage or contamination during a lawfully declared state of emergency; or
- (C) conducting routine air quality sampling and monitoring, as provided by state or local law



423.002 NonApplicability

It is lawful to Capture an image using and UA-

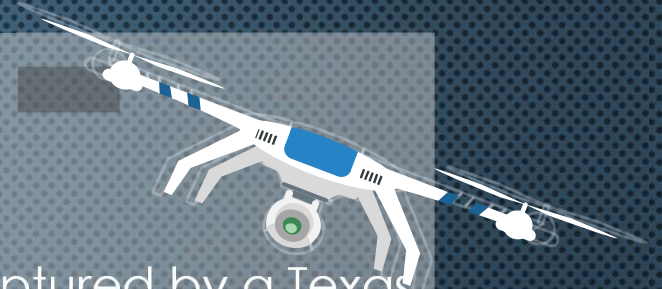
(10) at the scene of a spill, or a suspected spill, of hazardous materials;

(11) for the purpose of fire suppression;

(12) for the purpose of rescuing a person whose life or well-being is in imminent danger

(13) if the image is captured by a Texas licensed real estate broker in connection with the marketing, sale, or financing of real property, provided that no individual is identifiable in the image;

(14) from a height no more than eight feet above ground level in a public place, if the image was captured without using any electronic, mechanical, or other means to amplify the image beyond normal human perception



423.002 NonApplicability

It is lawful to Capture an image using and UA-

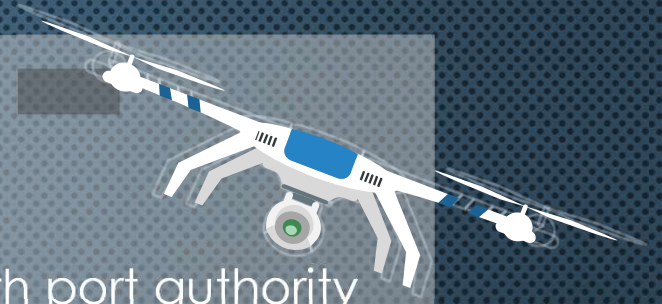
(15) of public real property or a person on that property;

(16) if the image is captured by the owner or operator of an oil, gas, water, or other pipeline for the purpose of inspecting, maintaining, or repairing pipelines or other related facilities, and is captured without the intent to conduct surveillance on an individual or real property located in this state;

(17) in connection with oil pipeline safety and rig protection;

(18) in connection with port authority surveillance and security;

(19) if the image is captured by a registered professional land surveyor in connection with the practice of professional surveying, as those terms are defined by Section 1071.002, Occupations Code, provided that no individual is identifiable in the image;



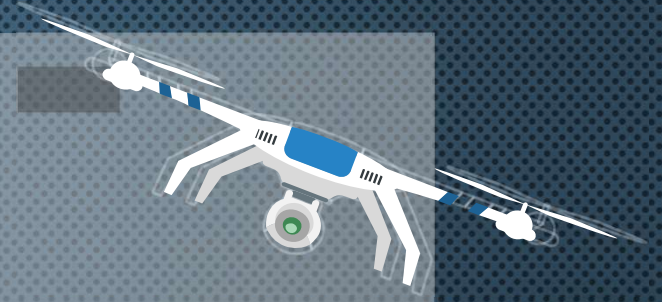
423.002 NonApplicability

It is lawful to Capture an image using and UA-

(20) if the image is captured by a professional engineer licensed under Subchapter G, Chapter 1001, Occupations Code, in connection with the practice of engineering, as defined by Section 1001.003, Occupations Code, provided that no individual is identifiable in the image; or

(21) if:

- (A) the image is captured by an employee of an insurance company or of an affiliate of the company in connection with the underwriting of an insurance policy, or the rating or adjusting of an insurance claim, regarding real property or a structure on real property; and
- (B) the operator of the unmanned aircraft is authorized by the Federal Aviation Administration to conduct operations within the airspace from which the image is captured.

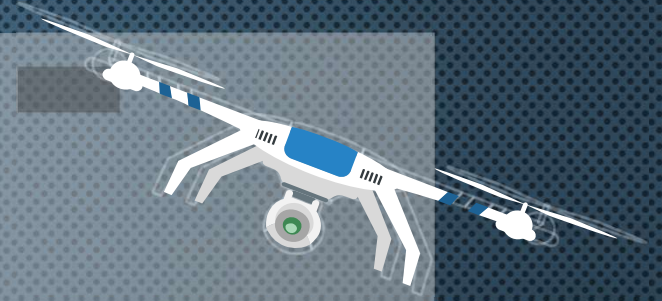


423.002 NonApplicability

It is lawful to Capture an image using and UA-

And just one more...

(b) This chapter does not apply to the manufacture, assembly, distribution, or sale of an unmanned aircraft.



423.002 NonApplicability



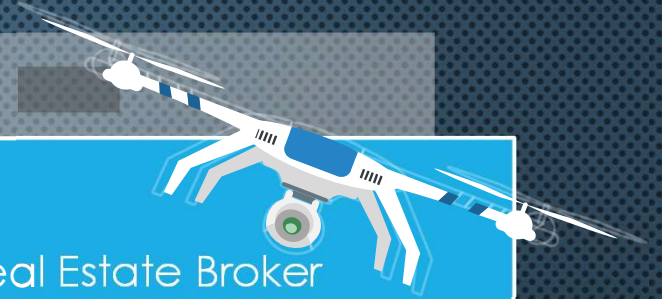
Lawful to Capture
Image

- Higher Ed
- FAA
- Military
- Satellite Mapping
- Utilities and Pipelines
- Consent of Property Owner
- Valid Warrant
- Law Enforcement
- HAZMAT Spill
- Fire Suppression
- Rescuing people



Lawful to Capture
Image

- Real Estate Broker
- Safety
- No higher than 8 feet off ground
- Public Real Property and Persons
- Oil Rig inspection and safety
- Port Authority Security
- Land Surveyor
- Professional Engineer



423.002 NonApplicability

Law Enforcement

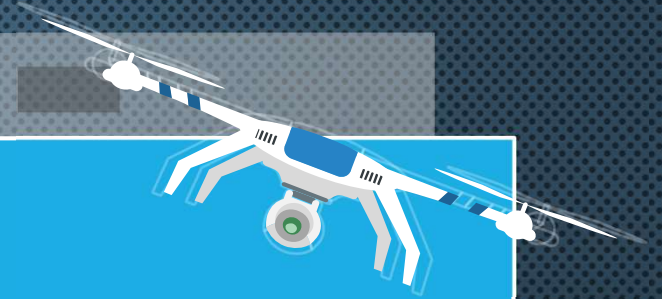


- Valid Search Warrant
- Hot pursuit of Felon
- Felony Crime Scene
- Missing Person
- Investigating
 - Fatalities
 - MVA death or serious bodily injury
 - Any MVA on State or Federal Hwy

Law Enforcement



- High Risk SWAT Ops
- Consent
- Border Security within 25 miles
- To help declare state of emergency
- Air Quality Samples
- HAZMAT



PD Drone Use



LIVE



NOWHERE TO HIDE

TAMPA

8 wfla.com
88° 6:14

Play (k)

30 TONIGHT CALL 1-800-528-0808 WITH QUESTIONS ABOUT REGISTERING TO VOTE. C/ RIGHT NOW



423.003

It is a defense to prosecution under this section that the person destroyed the image:

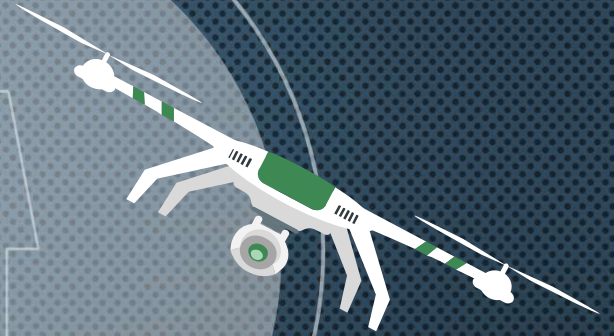
(1) as soon as the person had knowledge that the image was captured in violation of this section; and

(2) without disclosing, displaying, or distributing the image to a third party

Offense: Illegal Use of Unmanned Aircraft to Capture Image

**Class C
Misdemeanor**

A person commits an offense if the person uses an unmanned aircraft to capture an image of an individual or privately owned real property in this state with the intent to conduct surveillance on the individual or property captured in the image.



423.004

Offense: Possession, Disclosure, Display, Distribution, or Use of Image

A person commits an offense if the person:

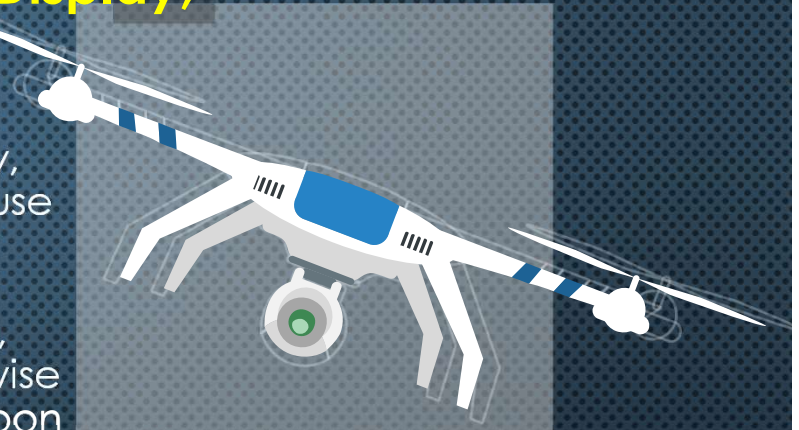
(1) captures an image in violation of Section 423.003; and
(2) possesses, discloses, displays, distributes, or otherwise uses that image.

(b) An offense under this section for the possession of an image is a Class C misdemeanor. An offense under this section for the disclosure, display, distribution, or other use of an image is a Class B misdemeanor.

Defenses:

For disclosure, display, distribution, or other use of an image that the person stopped disclosing, displaying, distributing, or otherwise using the image as soon as the person had knowledge of the violation.

For possession the person destroyed the image as soon as the person had knowledge that the image was captured in violation



Each image possessed disclosed or displayed is a separate violation

Class C Misdemeanor for Possession

Class B for Distribution



423.0045

Offense: Operation of Unmanned Aircraft over Correctional Facility, Detention Facility, or Critical Infrastructure Facility



A person commits an offense if the person intentionally or knowingly:

- (1) operates an unmanned aircraft over a correctional facility, detention facility, or critical infrastructure facility and the unmanned aircraft is not higher than 400 feet above ground level;
- (2) allows an unmanned aircraft to make contact with a correctional facility, detention facility, or critical infrastructure facility, including any person or object on the premises of or within the facility; or
- (3) allows an unmanned aircraft to come within a distance of a correctional facility, detention facility, or critical infrastructure facility that is close enough to interfere with the operations of or cause a disturbance to the facility

Defenses:

Governmental Entity,
Law Enforcement, Owner
of Critical Infrastructure



423.0045

**Offense: Operation
of Unmanned Aircraft over Correctional Facility, Detention Facility,
or Critical Infrastructure Facility**



Definitions:

Correctional Facility

Critical Infrastructure

Dams

Detention Facility



423.0045

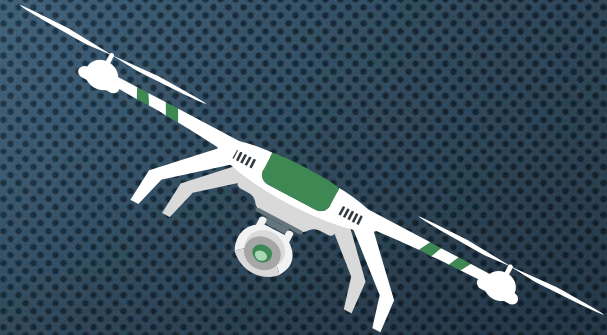
**Offense: Operation of Unmanned Aircraft
over Correctional Facility, Detention Facility,
or Critical Infrastructure Facility**

Exceptions:

To Conduct:

Committed by the federal government, the state,
or a governmental entity and law enforcement

Involving a correctional facility, detention facility, or
critical infrastructure facility and is committed by ...



Penalty:

Class B Misdemeanor for
first time offense and
Class A Misdemeanor for
previous convictions



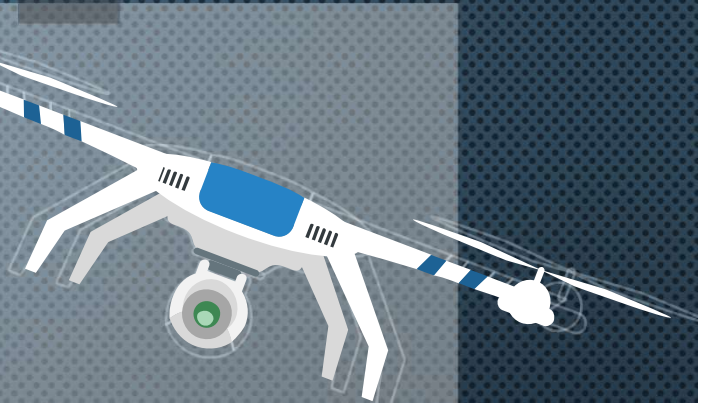
423.0046

Offense: Operation of Unmanned Over Sports Venue

“Sports Venue” means an arena, automobile racetrack, coliseum, stadium, or other type of area or facility that:

- (1) has a seating capacity of 30,000 or more people; and
- (2) is primarily used for one or more professional or amateur sports or athletics events

A person commits an offense if the person intentionally or knowingly operates an unmanned aircraft over a sports venue and the unmanned aircraft is not higher than 400 feet above ground level



Does not apply to Federal Government, the State, Governmental Entities and Law Enforcement

Penalty:

Class B Misdemeanor for first time offense and Class A Misdemeanor for previous convictions



Kyle Field



Not a Sports Venue.
Too many empty seats.



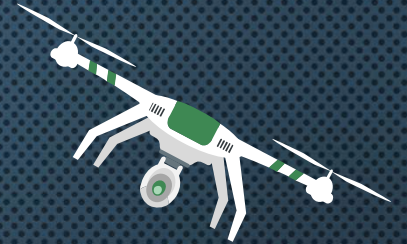
423.005

Illegally or Incidentally Captured Images not Subject to Disclosure

(a) An image captured in violation of Section 423.003, or an image captured by an unmanned aircraft that was incidental to the lawful capturing of an image:

- (1) may not be used as evidence
- (2) is not subject to disclosure, inspection, or copying under Chapter 552; and
- (3) is not subject to discovery, subpoena, or other means of legal compulsion for its release.

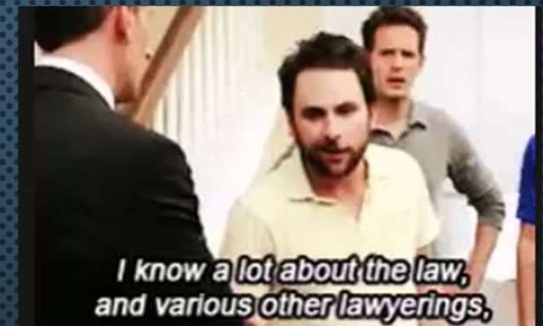
(b) An image may be disclosed and used as evidence to prove a violation of this chapter and is subject to discovery, subpoena, or other means of legal compulsion for that purpose



423.006 Civil Action

An owner or tenant of privately owned real property may bring against a person who, in violation of Section 423.003, captured an image of the property or the owner or tenant while on the property an action to:

- (1) enjoin a violation or imminent violation
- (2) recover a civil penalty of:
 - (A) \$5,000 for all images captured in a single episode in violation of Section 423.003; or
 - (B) \$10,000 for disclosure, display, distribution, or other use of any images captured in a single episode in violation of Section 423.004; or
- (3) recover actual damages if the person who captured the image in violation of Section 423.003 discloses, displays, or distributes the image with malice



423.007 Rules for Use by Law Enforcement

37 TAC § 1.143

Use of Unmanned Aircraft by a Law Enforcement Authority

Each law enforcement authority in Texas that uses unmanned aircraft shall comply with the Federal Aviation Administration minimum requirements for public aircraft operations. Information regarding public aircraft operations is available at:
<http://www.faa.gov/uas/>.



Policy Considerations

- Who is in charge of the program
- Concept of operations
- Description of the aircraft system
- Duties and Responsibilities
- Maintenance and inspection
- Operations requirements and restrictions
- Emergency Operations
 - Loss of communications
 - Loss of control
 - Loss of GPS by aircraft
 - Aircraft crash
- Launch and Recovery
- Training and Qualifications
- Approved Area of Operations



Aircraft Insurance

Should your agency have insurance?

- Coverages:
 - Bodily Injury Excluding Passengers
 - Liability Insurance
 - Property Damage
 - Medical Payments
 - Hull Coverage

Need:

- Description of Aircraft
- FAA Cert. Numbers
- Year, Make and Model
- Pilots – who may fly per endorsements approved by agency
- Territory for Ops





423.008

Reporting by Law Enforcement Agency

Not earlier than January 1 and not later than January 15 of each odd-numbered year, each state law enforcement agency and each county or municipal law enforcement agency located in a county or municipality, as applicable, with a population greater than 150,000

The Agency Must:

that used or operated an unmanned aircraft during the preceding 24 months shall issue a written report to the governor, the lieutenant governor, and each member of the legislature



423.008

Reporting by Law Enforcement Agency

(1) retain the report for public viewing; and

(2) post the report on the law enforcement agency's publicly accessible website, if one exists

The Agency Must:



423.008

(1) the number of times an unmanned aircraft was used, organized by date, time, location, and the types of incidents and types of justification for the use;

Reporting by Law Enforcement Agency

(2) the number of criminal investigations aided by the use of an unmanned aircraft and a description of how the unmanned aircraft aided each investigation;

The report must include:



423.008

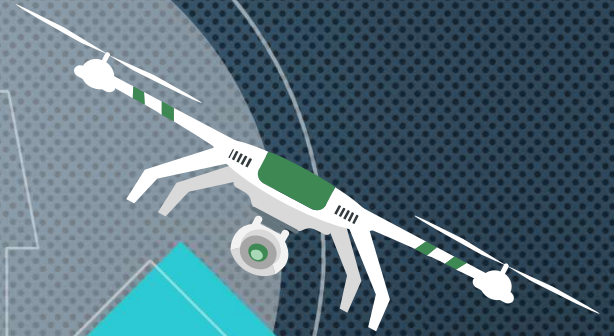
Reporting by Law Enforcement Agency

(3) the number of times an unmanned aircraft was used for a law enforcement operation other than a criminal investigation, the dates and locations of those operations, and a description of how the unmanned aircraft aided each operation;

The report must include:

(4) the type of information collected on an individual, residence, property, or area that was not the subject of a law enforcement operation and the frequency of the collection of this information; and

(5) the total cost of acquiring, maintaining, repairing, and operating or otherwise using each unmanned aircraft for the preceding 24 months



423.009

Regulation of Unmanned Aircraft by Political Subdivision

A political subdivision may not adopt or enforce any ordinance, order, or other similar measure regarding the operation of an unmanned aircraft

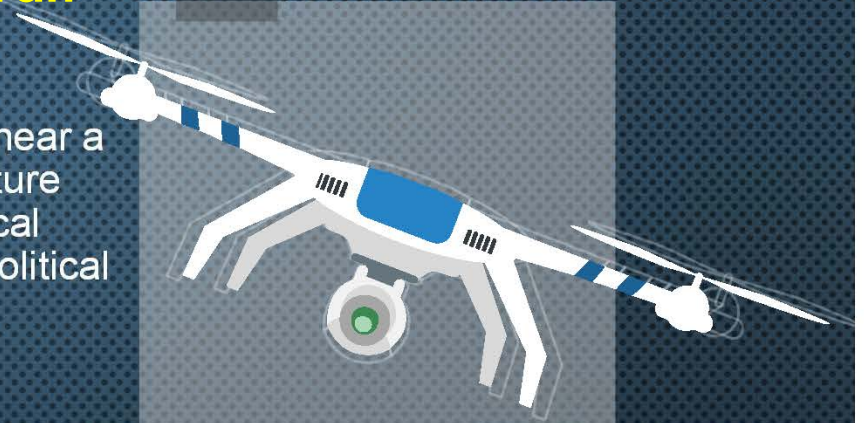
Except:

A political subdivision may adopt and enforce an ordinance, order, or other similar measure regarding:

- (1) the use of an unmanned aircraft during a special event;
- (2) the political subdivision's use of an unmanned aircraft; or

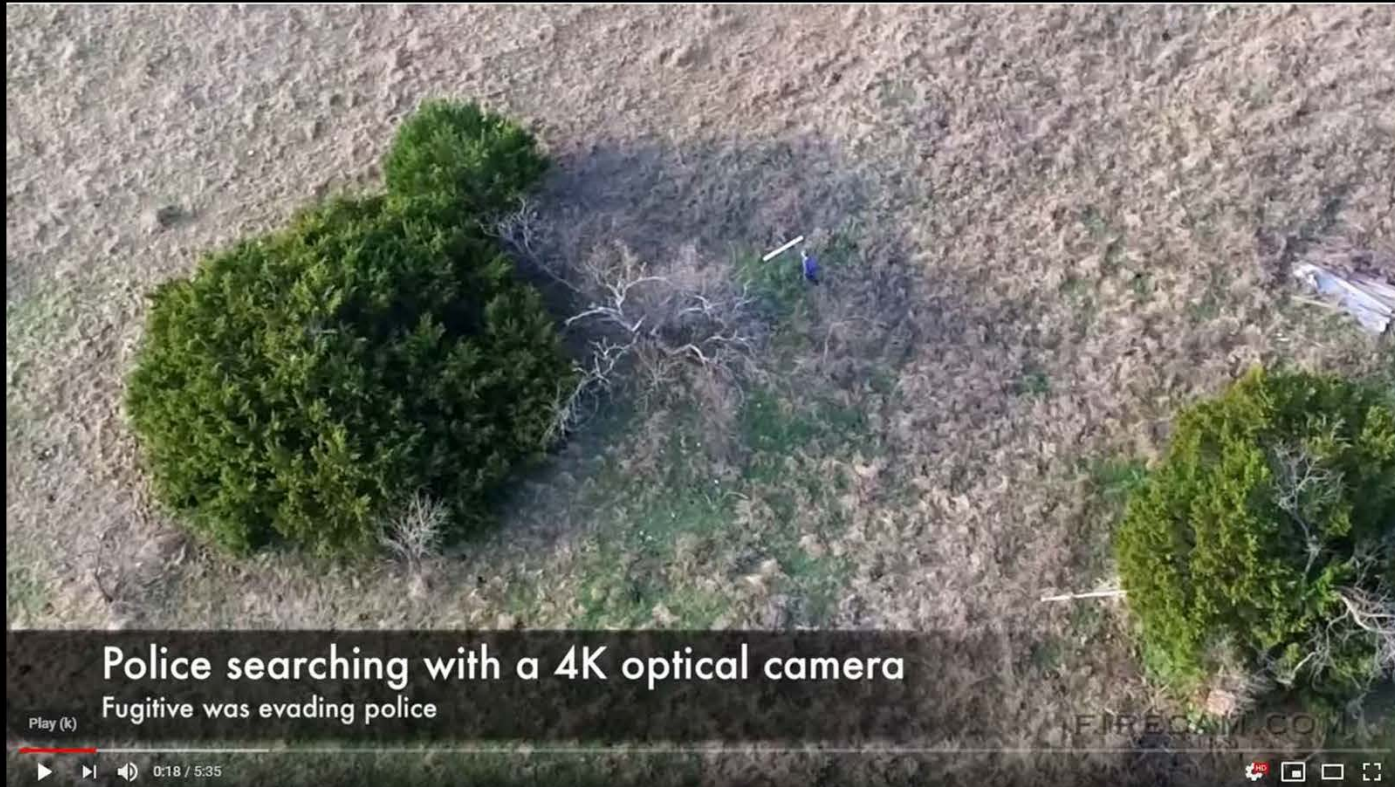
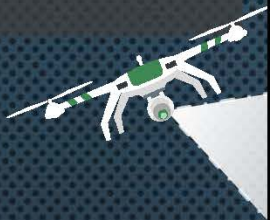
(3) the use of an unmanned aircraft near a facility or infrastructure owned by the political subdivision, if the political subdivision:

- (A) applies for and receives authorization from the Federal Aviation Administration to adopt the regulation; and
- (B) after providing reasonable notice, holds a public hearing on the political subdivision's intent to apply for the authorization



Definitions
Political Subdivision
Special Event





Federal Regulation

14 CFR Part 107

49 U.S.C. §40102(a) and
§ 40125

U.S.C.A. Chapter 44801
Unmanned Aircraft Systems

FAA Reauthorization
Act of 2018

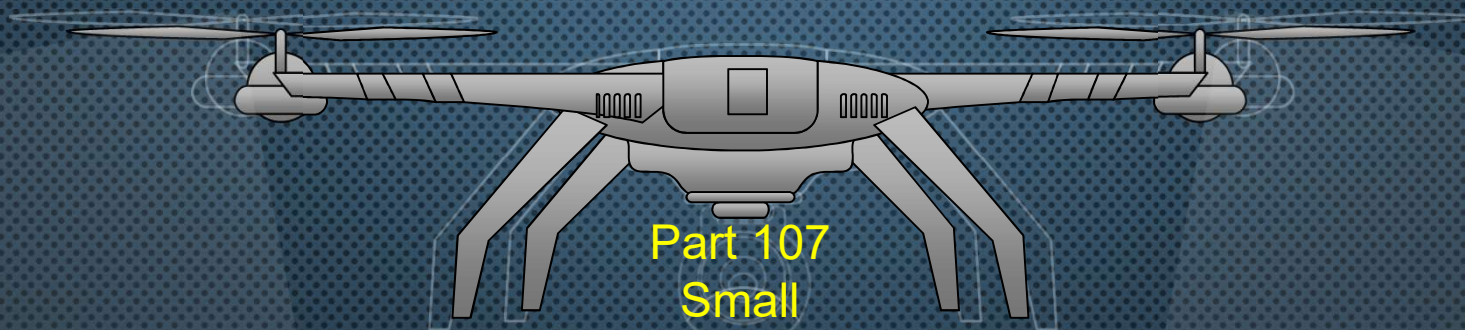
Governed by
the FAA



Federal Regulation



Federal Aviation
Administration



Part 107 Small Unmanned Aircraft Systems

01 Part A
General – Applicability,
Testing and Reporting



Part B
Operating Rules - lots

02

03 Part C
Remote Pilot Certification



Part D
Waivers

04



Federal Aviation
Administration

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Data & Research

Licenses & Certificates

Regulations & Policies

Training & Testing

Unmanned Aircraft Systems

FAA Home • Unmanned Aircraft Systems • Public Safety and Government

Getting Started

Recreational Flyers & Modeler
Community-Based
Organizations

Certificated Remote Pilots
Including Commercial
Operators

Public Safety and
Government

Operate a Drone, Start a
Drone Program

Understanding Your Authority:
Handling Sightings and
Reports

Public Safety and Law
Enforcement Toolkit

FAA Contacts for Law
Enforcement

Educational Users

Advanced Operations

Programs, Partnerships &
Opportunities

Research & Development

Resources & Other Topics

Contact Us

Public Safety and Government

Public Safety Agencies, such as Law Enforcement, are in the best position to deter, detect, and investigate unauthorized or unsafe UAS operations. While drones can serve as a useful tool, these agencies also have an important role in protecting the public from unsafe and unauthorized drone operations. This information will help law enforcement and public safety professionals understand safe drone operations and their authority.



Operate a Drone, Start a Drone Program

Understand Your Authority: Handling Sightings
and Reports

Access Our Public Safety Toolkit

FAA Contacts for Law Enforcement

Top Tasks

Watch the "Drone Safety: It's the Law" webinar

Find LEAP agent contact
information

Download our Public Safety
Toolkit



GETTING DOWN
TO BUSINESS

June 3-5, 2019 | Baltimore, MD
faa2019.suval.net





Federal Aviation
Administration

DRONES IN PUBLIC SAFETY: A GUIDE TO STARTING OPERATIONS

Law enforcement and public safety agencies are realizing the potential of using drones to enhance their missions. Some agencies choose to hire drone pilots certified by the Federal Aviation Administration to conduct operations for them. But if your agency wants to conduct its own drone operations or create a program with multiple pilots and drones, this primer will help get you started.

Your agency has two options to operate drones:

- **Designate** individual members of your team to earn FAA drone pilot certificates and fly under the rules for small unmanned aircraft systems (sUAS).
- **Receive** an FAA certificate of authorization (COA) to function as a "public aircraft operator" that can self-certify its drone pilots and drones.





**Federal Aviation
Administration**

The sUAS Rule

Most drone pilots operate under the sUAS rule, which is commonly known as Part 107 after the designated section of the federal code. Part 107 defines requirements for drone pilots and drones, and it sets operational limits for drone usage.





Federal Aviation Administration

Pilot certification and responsibilities

- Members of your team may choose to take the FAA Airman Knowledge Test to become drone pilots. Those who pass the test receive remote pilot airman certificates, giving them the right to operate qualified sUAS.

Operational limitations

- Drones flown by remote pilots must weigh less than 55 lbs. This limitation includes any attached equipment or cargo, such as emergency aid in search-and-rescue operations.
- Remote pilots cannot fly their drones more than 400 feet above ground level (or more than 400 feet above the top of structures like communications towers).

- Remote pilots must receive FAA authorization to fly in airspace near airports. They may use an automated system called Low Altitude Authorization and Notification Capability (LAANC).
- Other limitations include not flying over people or at night. Your agency may apply for waivers to certain rules. To request a waiver, visit faa.gov/uas/request_waiver.

Aircraft requirements

- No FAA airworthiness certificate is required to fly sUAS under Part 107, but your team must register each aircraft with the FAA. The remote pilot must confirm that an aircraft is in condition for safe operation before each flight.





**Federal Aviation
Administration**

Public Aircraft Operator

Rather than certify pilots and register aircraft under Part 107, your agency may choose instead to request a COA from the FAA to become a public aircraft operator. This would allow your agency to self-certify your drone pilots and drones for flights to perform governmental functions.

The first step is to ask your legal department to draft a Public Declaration Letter that certifies your agency as a governmental entity and send it to the FAA. The FAA will send you a user ID and password to the UAS COA Online Application System, where you can complete your application. This process can take up to 60 days.

For more information about the COA process, please visit www.faa.gov/go/COA

Emergency Authorizations and Operations

To support emergency responders and other entities affiliated with them, the FAA can quickly issue authorizations for responses to natural disasters and other emergencies. For more information, please visit: www.faa.gov/go/EmergencyWaiver



Federal Regulation Certificate of Authorization

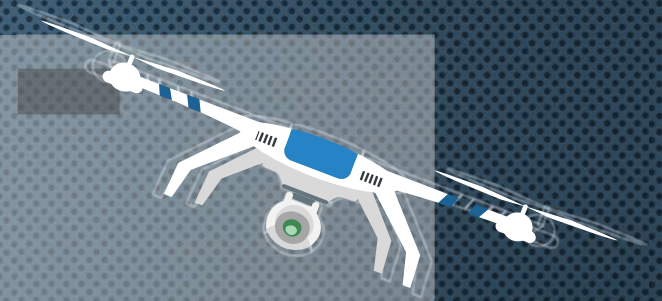
COA is an authorization issued by the Air Traffic Organization to a public operator for a specific UA activity

Complete application is submitted, FAA conducts a comprehensive operational and technical review

If necessary, provisions or limitations may be imposed as part of the approval to ensure the UA can operate safely with other airspace users

In most cases, FAA will provide a formal response within 60 days from the time a completed application is submitted.

FAA deployed a web-based application system. The UAS COA Online System provides applicants with an electronic method of requesting a COA.



Federal Regulation Certificate of Authorization

49 U.S.C. §40102(a) and § 40125

Fly under the statutory requirements for public aircraft and Operate with a Certificate of Waiver or Authorization (COA) to be able to self-certify UAS and operators for flights performing governmental functions

COA is an authorization issued by the Air Traffic Organization to a public operator for a specific UA activity

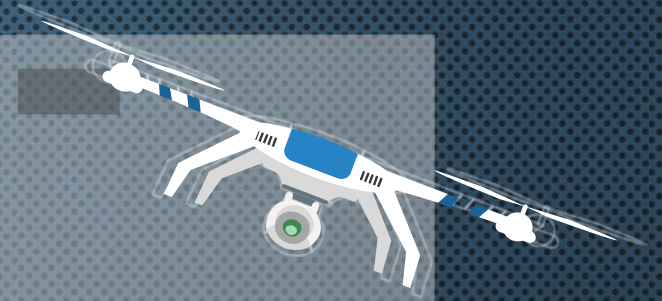
First get a drone – you need specs and serial numbers for application and to register the drone

Letter from City Attorney declaring you are a police or fire department

Need a Policy

Pilots need to be trained through to qualify

Not under part 107





Legal Department
City of College Station
College Station, Texas 77842
ph. 979.764.3507

Federal Aviation Administration
Jacqueline R. Jackson
Air traffic Manager
Unmanned Aircraft Tactical Operations, AJV-115
490 L'Enfant Plaza SW Suite 7105
Washington Dc 20024

December 11, 2015

Dear Ms. Jackson,

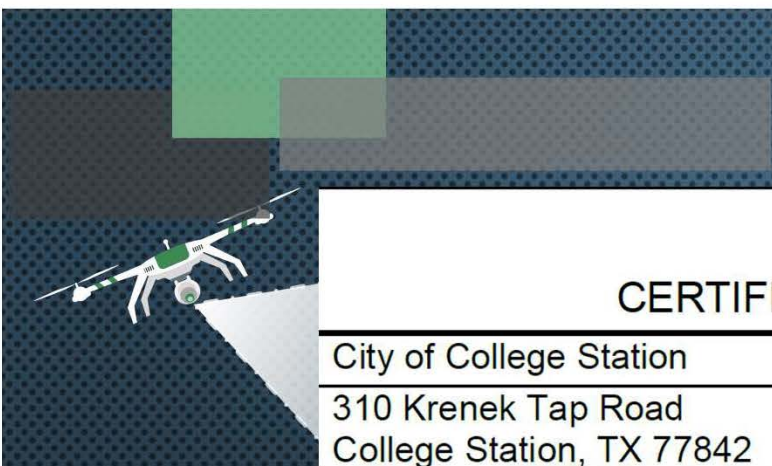
The City of College Station, Texas is requesting to operate as a public aircraft operator.

As the City Attorney for the City of College Station I certify that the City is a political subdivision of the State of Texas as defined in Title 49 USC 40102A(41)(C). The aircraft to be used in operation by the city will not be used for commercial purposes or to carry any individual other than a crewmember or a qualified non-crewmember in accordance with 49 USC 40125(B).

The City of College Station is a Home-Rule Municipality created pursuant to Article XI, Section 5, of the Texas Constitution, and as defined in Sec. 5.004 of the Texas Local Government Code.

The City of College Station will not operate for compensation or hire in reference to Title 49 USC 40125(B).





DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

CERTIFICATE OF WAIVER OR AUTHORIZATION

City of College Station

310 Krenek Tap Road
College Station, TX 77842

This certificate is issued for the operations specifically described hereinafter. No person shall conduct any operation pursuant to the authority of this certificate except in accordance with the standard and special provisions contained in this certificate, and such other requirements of the Federal Aviation Regulations not specifically waived by this certificate.

OPERATIONS AUTHORIZED

Operation of the DJI Phantom 3 Unmanned Aircraft System (UAS) in Class D and G airspace, at or below 400 feet Above Ground Level (AGL) within the confines of the Brazos County, TX as depicted in Attachment 1, under the jurisdiction of the Easterwood Air Traffic Control Tower (ATCT) and the Houston Terminal Radar Approach Control Facility (TRACON). See Special Provisions.



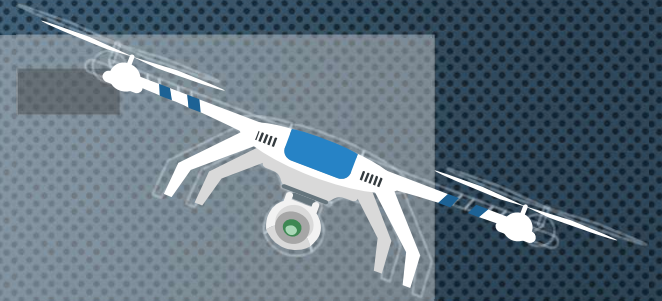
Federal Regulation Certificate of Authorization

COA Includes:

- Ops that are authorized
- Purpose for UAS Ops
- Dates of Use
- Airworthiness Cert
- Operations
 - Defined Area
 - Single Control Station
 - One Pilot
- ATC Communication

Follow 14 C.F.R. Part 91 - General Operating and Flight Rules

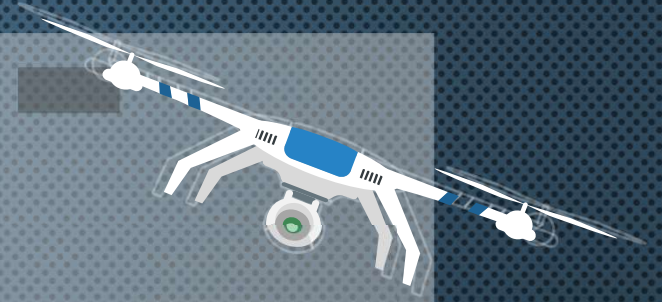
- a. § 91.3 Responsibility and authority of the pilot in command
- b. § 91.13 Careless or reckless operation
- c. § 91.17 Alcohol or drugs
- d. § 91.103 Preflight Actions
- e. § 91.111 Operating near other aircraft.



Federal Regulation Certificate of Authorization

COA Includes:

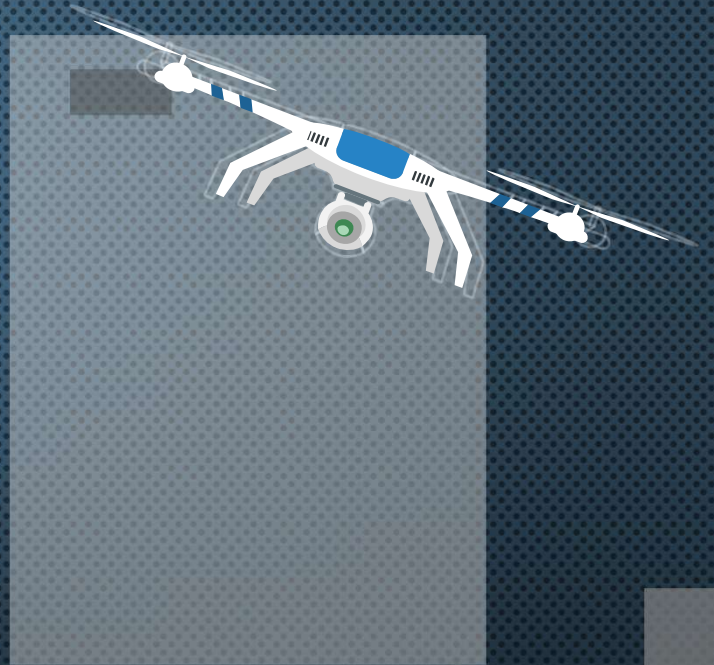
- f. § 91.113 Right-of-way rules: Except water operations
- g. § 91.115 Right-of-way rules: Water operations
- h. § 91.119 Minimum safe altitudes: General
- i. § 91.123 Compliance with ATC clearances and instructions.
- j. § 91.133 Restricted and prohibited areas
- k. § 91.137 Temporary flight restrictions in the vicinity of disaster/hazard areas
- l. § 91.145 Management of aircraft operations in the vicinity of aerial demonstrations and major sporting events
- m. § 91.151 Fuel requirements for flight in VFR conditions
- n. § 91.155 Basic VFR weather minimums
- o. § 91.159 VFR cruising altitude or flight level
- p. § 91.209 Aircraft Lights
- q. § 91.213 Inoperative instruments and equipment
- r. § 91.215 ATC transponder and altitude reporting equipment and use
- s. Appendix D to Part 91—Airports/Locations: Special Operating Restrictions



Federal Regulation Certificate of Authorization

COA Includes:

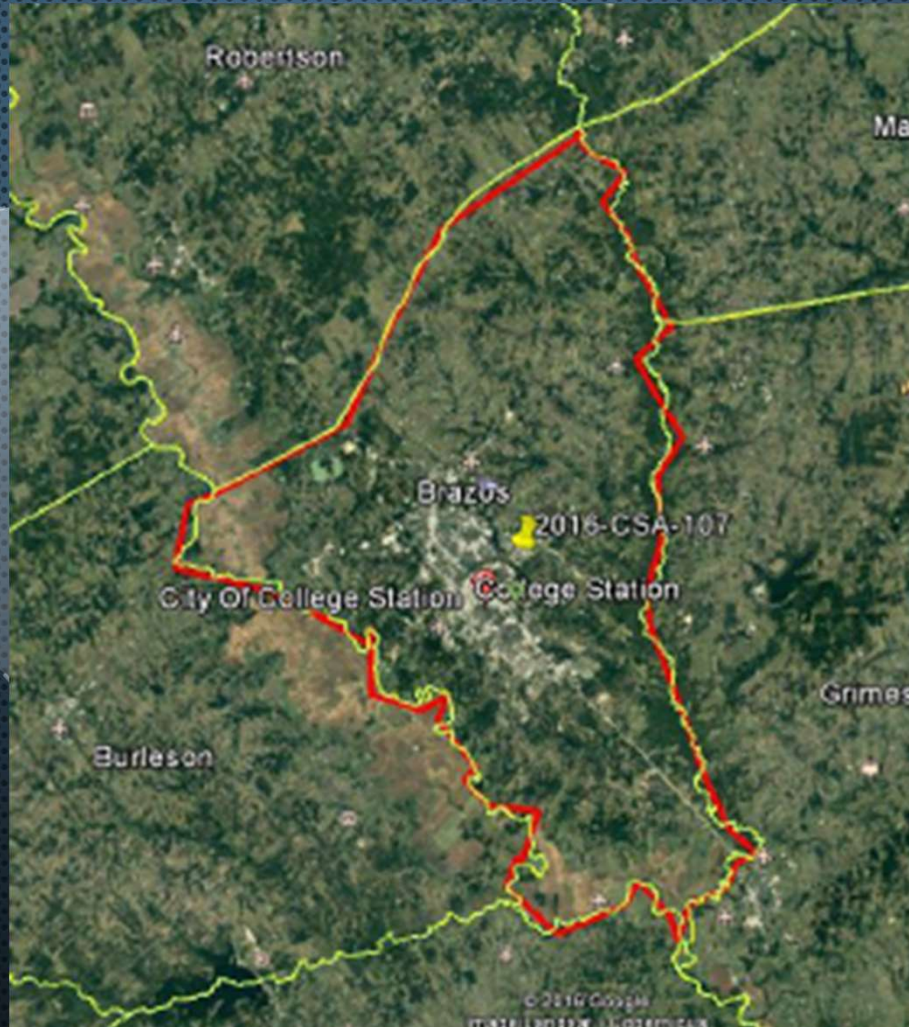
- PIC rules
- Visual Observers
- Data Reporting
- Accident Reporting
- Safe Altitude Over People
- Night Time Ops Limits
 - One or more VOS
 - Training
 - Lighted Anti-Collision Lights



Operations Area



Operations Area



Federal Regulation Operating Restrictions

Less than 55 pounds

Visual Line of Sight

Not over humans

Daytime Only

ROW to other Aircraft

Max Speed 100 MPH

16 year old to operate

Pass a test and train

Model Aircraft Section 336 49 USC 40101 2012 FAA Modernization and Reform Act

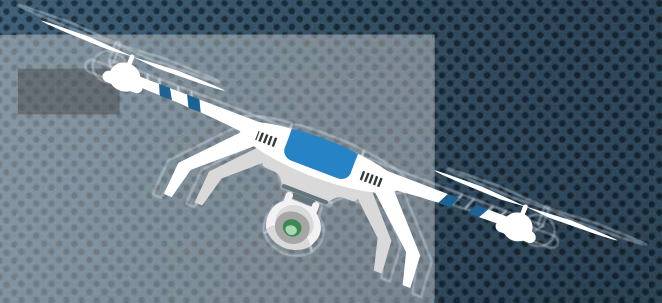
Just for hobby or recreation

Community based safety guidelines

Less than 55 pounds

No interference with manned Aircraft

Flown within 5 miles of airport must notice of operation

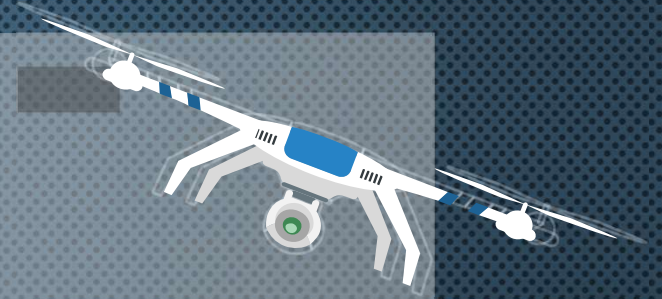


Federal Regulation General

Accident Reporting 14 C.F.R. § 107.9

No later than 10 calendar days after an operation that meets the criteria of either paragraph (a) or (b) of this section, a remote pilot in command must report to the FAA, in a manner acceptable to the Administrator, any operation of the small unmanned aircraft involving at least:

- (a) Serious injury to any person or any loss of consciousness; or
- (b) Damage to any property, other than the small unmanned aircraft, unless one of the following conditions is satisfied:
 - (1) The cost of repair (including materials and labor) does not exceed \$500; or
 - (2) The fair market value of the property does not exceed \$500 in the event of total loss.





Drone Crashes Around The World



Federal Regulation

Pilot Certification

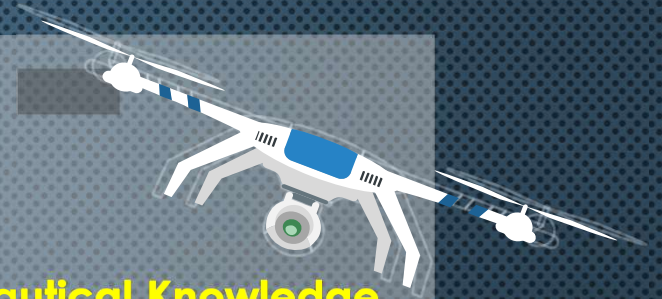
Pilot Certificate 14 C.F.R. § 107.12

- (1) That person has a remote pilot certificate with a small UAS rating issued pursuant to subpart C of this part and satisfies the requirements of § 107.65; or
- (2) That person is under the direct supervision of a remote pilot in command and the remote pilot in command has the ability to immediately take direct control of the flight of the small unmanned aircraft

14 C.F.R. § 107.65 Aeronautical Knowledge

A person may not operate a small unmanned aircraft system unless that person has completed one of the following, within the previous 24 calendar months:

- (a) Passed an initial aeronautical knowledge test covering the areas of knowledge specified in § 107.73(a);
- (b) Passed a recurrent aeronautical knowledge test covering the areas of knowledge specified in § 107.73(b); or
- (c) If a person holds a pilot certificate under part 61



Federal Regulation

Pilot Certification

Eligibility

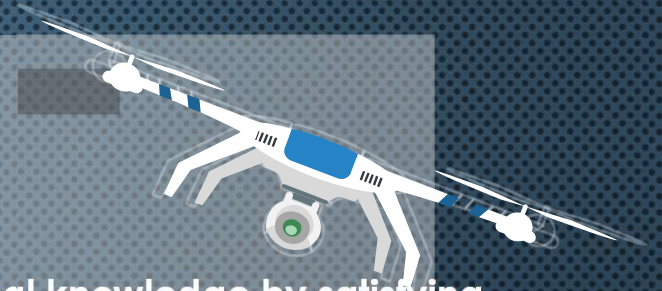
14 C.F.R. § 107.61

- (a) Be at least 16 years of age;
- (b) Be able to read, speak, write, and understand the English language.
- (c) Not know or have reason to know that he or she has a physical or mental condition that would interfere with the safe operation of a small unmanned aircraft system

(d) Demonstrate aeronautical knowledge by satisfying one of the following conditions:

- (1) Pass an initial aeronautical knowledge test covering the areas of knowledge specified in § 107.73(a); or
- (2) If a person holds a pilot certificate (other than a student pilot certificate) issued under part 61 of this chapter and meets the flight review requirements specified in § 61.56, complete an initial training course covering the areas of knowledge specified in § 107.74(a) in a manner acceptable to the Administrator.

14 C.F.R. § 107.74 – Must submit an application



Federal Regulation

Pilot Certification

Knowledge Test 14 C.F.R. § 107.73

(b) A recurrent aeronautical knowledge test covers the following areas of knowledge:

(1) Applicable regulations relating to small unmanned aircraft system rating privileges, limitations, and flight operation;

(2) Airspace classification and operating requirements and flight restrictions affecting small unmanned aircraft operation;

(3) Emergency procedures;

(4) Crew resource management;

(5) Aeronautical decision-making and judgment;

(6) Airport operations; and

(7) Maintenance and preflight inspection procedures.



Federal Regulation Operating Rules

Operation Near Aircraft ROW Rules 14 C.F.R. § 107.37

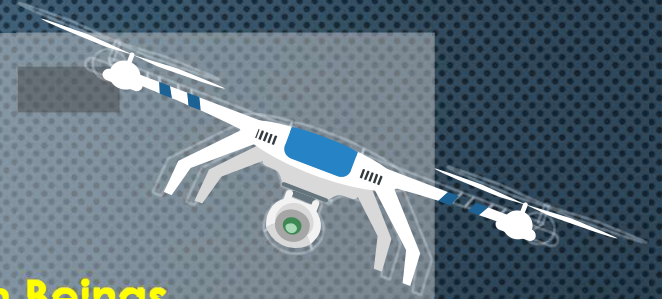
(a) Each small unmanned aircraft must yield the right of way to all aircraft, airborne vehicles, and launch and reentry vehicles. Yielding the right of way means that the small unmanned aircraft must give way to the aircraft or vehicle and may not pass over, under, or ahead of it unless well clear.

(b) No person may operate a small unmanned aircraft so close to another aircraft as to create a collision hazard

Operation Over Human Beings 14 C.F.R. § 107.39

No person may operate a small unmanned aircraft over a human being unless that human being is:

- (a) Directly participating in the operation of the small unmanned aircraft; or
- (b) Located under a covered structure or inside a stationary vehicle that can provide reasonable protection from a falling small unmanned aircraft.



Drones in the Movies



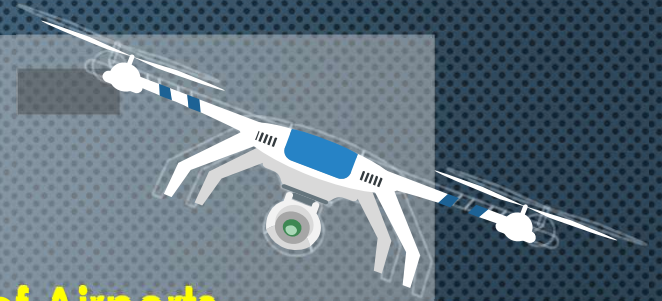
Federal Regulation Operating Rules

Operation in Certain Airspace 14 C.F.R. § 107.41

No person may operate a small unmanned aircraft in Class B, Class C, or Class D airspace or within the lateral boundaries of the surface area of Class E airspace designated for an airport unless that person has prior authorization from Air Traffic Control (ATC)

Operation in Vicinity of Airports 14 C.F.R. § 107.43

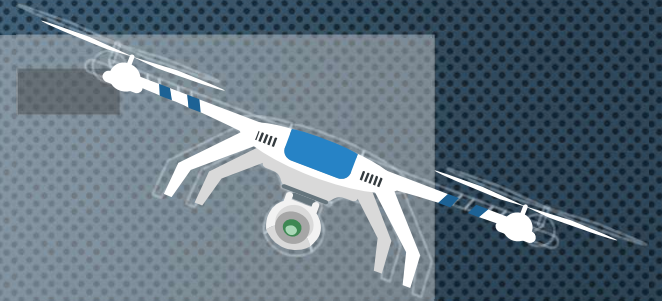
No person may operate a small unmanned aircraft in a manner that interferes with operations and traffic patterns at any airport, heliport, or seaplane base



Federal Regulation Operating Rules

Operation Limitations 14 C.F.R. § 107.51

- (a) The groundspeed of the small unmanned aircraft may not exceed 87 knots (100 miles per hour).
- (b) (b) The altitude of the small unmanned aircraft cannot be higher than 400 feet above ground level, unless the small unmanned aircraft:
 - (1) Is flown within a 400-foot radius of a structure; and
 - (2) Does not fly higher than 400 feet above the structure's immediate uppermost limit



FAA Airspace



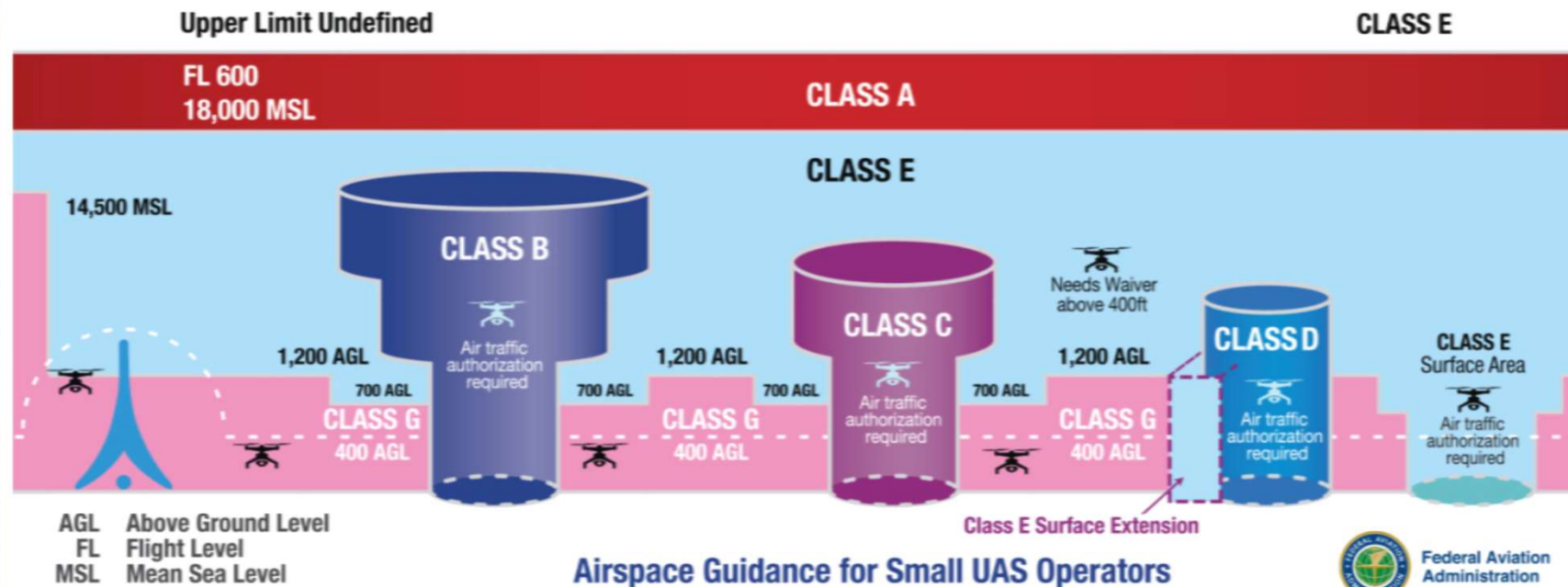
**Federal Aviation
Administration**

Airspace		Flight Visibility	Distance from Clouds	
Class A		Not applicable	Not applicable	
Class B		3 statute miles	Clear of clouds	
Class C		3 statute miles	1,000 feet above 500 feet below 2,000 feet horizontal	
Class D		3 statute miles	1,000 feet above 500 feet below 2,000 feet horizontal	
Class E	At or above 10,000 feet MSL	5 statute miles	1,000 feet above 1,000 feet below 1 statute mile horizontal	
	Less than 10,000 feet MSL	3 statute miles	1,000 feet above 500 feet below 2,000 feet horizontal	
Class G	1,200 feet or less above the surface (regardless of MSL altitude).	Day, except as provided in section 91.155(b)	1 statute mile	Clear of clouds
		Night, except as provided in section 91.155(b)	3 statute miles	1,000 feet above 500 feet below 2,000 feet horizontal
	More than 1,200 feet above the surface but less than 10,000 feet MSL.	Day	1 statute mile	1,000 feet above 500 feet below 2,000 feet horizontal
		Night	3 statute miles	1,000 feet above 500 feet below 2,000 feet horizontal
	More than 1,200 feet above the surface and at or above 10,000 feet MSL.		5 statute miles	1,000 feet above 1,000 feet below 1 statute mile horizontal



A gold-colored police badge with a seven-pointed star design. The points of the star are inscribed with "CHIEF OF POLICE" at the top, "COLLEGE STATION" on the left, "POLICE" on the right, and "TEXAS" at the bottom. The center of the badge features a circular seal with a blue star and the words "STATE OF TEXAS" and "1846".

FAA Airspace



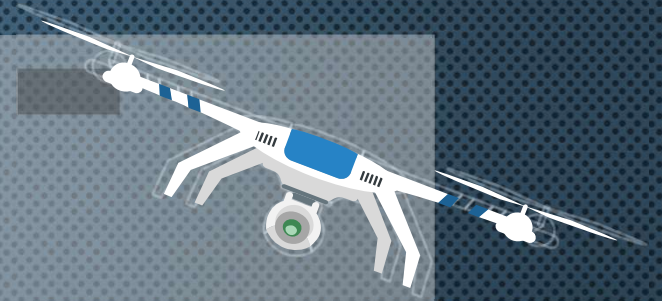
Federal Regulation Operating Rules

Operation Limitations 14 C.F.R. § 107.51

(c) The minimum flight visibility, as observed from the location of the control station must be no less than 3 statute miles. For purposes of this section, flight visibility means the average slant distance from the control station at which prominent unlighted objects may be seen and identified by day and prominent lighted objects may be seen and identified by night.

(d) The minimum distance of the small unmanned aircraft from clouds must be no less than:

- (1) (1) 500 feet below the cloud; and
- (2) (2) 2,000 feet horizontally from the cloud



Federal Regulation Proposed Rules

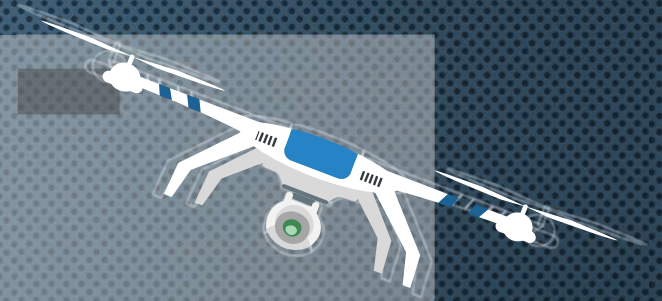
Operation Over People 84 FR 3856-01

This rulemaking would allow operations of small unmanned aircraft over people in certain conditions and operations of small UAS at night without obtaining a waiver.

It would also require remote pilots in command to present their remote pilot in command certificate as well as identification to certain Federal, State, or local officials, upon request, and

Proposes to amend the knowledge testing requirements to require training every 24 calendar months.

This proposal would be the next phase in integrating small UAS using a risk-based approach. These amendments would allow expanded small UAS operations and reduce the knowledge testing burden on remote pilot in command certificate holders.

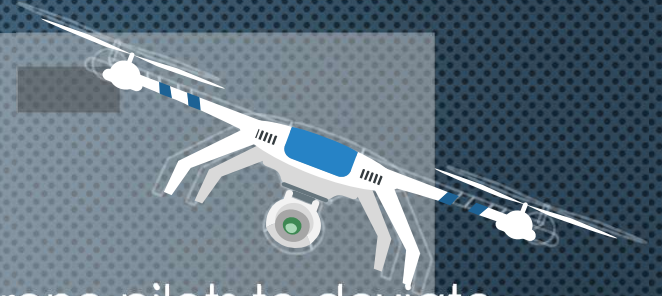


Federal Regulation Waivers

A waiver is an official document issued by the FAA which approves certain operations of aircraft outside the limitations of a regulation

These waivers allow drone pilots to deviate from certain rules under part 107 by demonstrating they can still fly safely using alternative methods.

You do NOT need a waiver to fly a drone following part 107 rules. You DO need a waiver when you want to operate a drone contrary to the rules in part 107



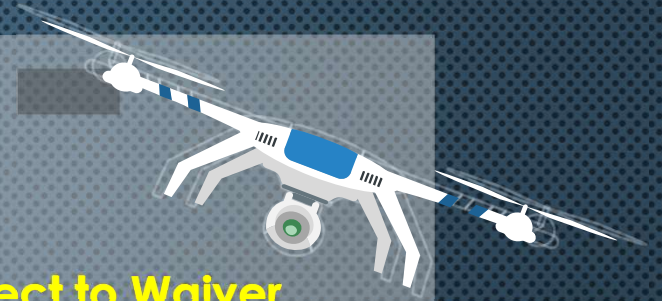
Federal Regulation Waivers

Waiver Policy and Requirements 14 C.F.R. § 107.200

Administrator may issue a certificate of waiver authorizing a deviation from any regulation specified in § 107.205 if the Administrator finds that a proposed small UAS operation can safely be conducted under the terms of that certificate of waiver.

List of Regulations Subject to Waiver 14 C.F.R. 107.205

- (a) Section 107.25—Operation from a moving vehicle or aircraft. However, no waiver of this provision will be issued to allow the carriage of property of another by aircraft for compensation or hire.
- (b) Section 107.29—Daylight operation.
- (c) Section 107.31—Visual line of sight aircraft operation. However, no waiver of this provision will be issued to allow the carriage of property of another by aircraft for compensation or hire.



Federal Regulation Waivers

List of Regulations Subject to Waiver

14 C.F.R. 107.205

(d) Section 107.33—Visual observer.

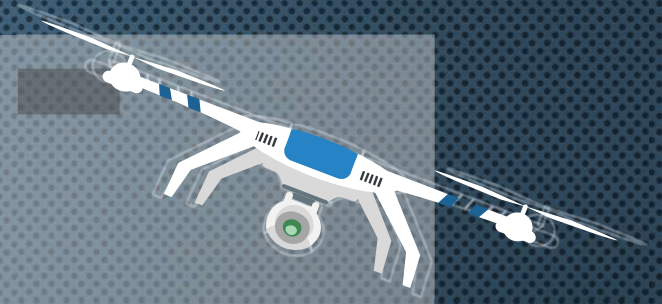
(e) Section 107.35—Operation of multiple small unmanned aircraft systems.

(f) Section 107.37(a)—Yielding the right of way.

(g) Section 107.39—Operation over people

(h) Section 107.41—Operation in certain airspace.

(i) Section 107.51—Operating limitations for small unmanned aircraft.



FAA Waivers



**Federal Aviation
Administration**

You want to...	Part 107 regulation you need a waiver from...
Fly a UAS from a moving aircraft or a vehicle in populated areas	§ 107.25 – Operation from a Moving Vehicle or Aircraft
Fly a UAS at night	§ 107.29 – Daylight Operations
Fly a UAS beyond your ability to clearly determine its orientation with unaided vision	§ 107.31 – Visual Line of Sight Aircraft Operation
User a visual observer without following all visual observer requirements	§ 107.33 – Visual Observer
Fly multiple UAS with only 1 remote pilot	§ 107.35 – Operation of Multiple Small UAS
Fly a UAS without having to give way to other aircraft	§ 107.37(a) – Yielding Right of Way
Fly a UAS over a person/people	§ 107.39 – Operation Over People
Fly a UAS: <ul style="list-style-type: none"> • Over 100 miles per hour groundspeed • Over 400 feet above ground level (AGL) • With less than 3 statute miles of visibility • Within 500 feet vertically or 2000 feet horizontally from clouds 	§ 107.51 – Operating limitations for Small Unmanned Aircraft



COA vs. Part 107

Certificate of Authorization

- Self Certify
 - Aircraft
 - Pilots
 - Airspace
- 49 USC§ 40102(a)(41)
- 49 USC§ 40125

Part 107

- Aircraft
 - Under 55 lbs.
- Pilot Req's.
 - Remote Pilot
 - Cert. with sUAS
- Airspace – Class G unless authorized or waived
- Limited to Daytime, 400ft AGL, not over people



Civil Penalties

Federal Penalties

- A fine up to \$25,000 for persons violating FAA regulations. A separate violation occurs for each day the violation continues (49 U.S.C. § 46301).
- A fine of not more than \$20,000 against a person who flies a drone and knowingly or recklessly interferes with:
 - wildfire suppression;
 - law enforcement; or
 - emergency response efforts related to wildfire suppression (49 U.S.C. § 46320).

Civil Penalties

- \$25,000 for each violation by a person operating a drone or a drone system with a dangerous weapon (as defined in 18 U.S.C. § 930(g)(2)) without FAA authorization (PL 115-254 § 363).



Civil Penalties

Federal Penalties

- Drone operators may also face civil penalties for making fraudulent or intentionally false statements in relation to obtaining waivers, certifications, or the operation of drones (14 C.F.R. § 107.5).

Civil Penalties

- Operators may also face denial, suspension, or revocation of remote pilot in command certificates for:

Violating federal or state alcohol or drug statutes (14 C.F.R. § 107.57).

Refusing to submit to an alcohol test or furnish its results (14 C.F.R. § 107.59).



Criminal Penalties

Federal Penalties

- Three years for not registering a drone (49 U.S.C. § 46306).
- One year for violating national defense airspace (49 U.S.C. § 46307).
- Five years for interfering with air navigation (49 U.S.C. § 46308).
- Five years for transporting hazardous materials (49 U.S.C. § 46312).
- Three years for operating in air transportation without a pilot's license (49 U.S.C. § 46317).

Criminal Penalties

- One year for any person operating a drone who knowingly or recklessly interferes or disrupts an aircraft's operation, except for operators who fly within a "runway exclusion zone" (18 U.S.C. § 39B).
- Two years for an individual who operates a drone and knowingly and recklessly interferes with:
 - wildfire suppression;
 - law enforcement; or
 - emergency response efforts related to wildfire suppression.
- (18 U.S.C. § 40A.)



Federal Penalties

Criminal Penalties

- Ten years for any person who knowingly and willfully fly drones in or above restricted buildings or grounds if:
 - the person uses a deadly or dangerous weapon; or
 - the offense results in significant bodily injury.
- (18 U.S.C. § 1752(a)(5), (b).)



Law Enforcement Response

What do the Police do with a Drone call?

This is how the Duke would handle a drone call.



Law Enforcement Response

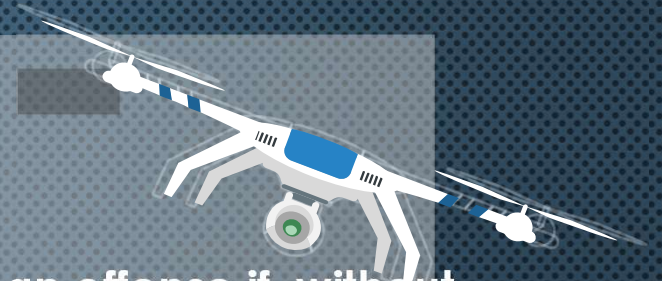
What do the Police do with a Drone call?

What types of Criminal Offenses?

Criminal Mischief?

Tex. Pen. Code Ann. § 28.03

- (a) A person commits an offense if, without the effective consent of the owner:
 - (1) he intentionally or knowingly damages or destroys the tangible property of the owner;
 - (2) he intentionally or knowingly tampers with the tangible property of the owner and causes pecuniary loss or substantial inconvenience to the owner or a third person; or
 - (3) he intentionally or knowingly makes markings, including inscriptions, slogans, drawings, or paintings, on the tangible property of the owner



Law Enforcement Response

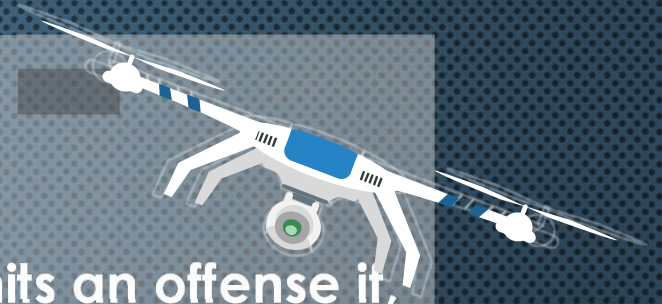
What do the Police do with a Drone call?

What types of Criminal Offenses?

Reckless Damage?
Tex. Pen. Code Ann. § 28.04

(a) A person commits an offense if, without the effective consent of the owner, he recklessly damages or destroys property of the owner.

(b) An offense under this section is a Class C misdemeanor



Law Enforcement Response

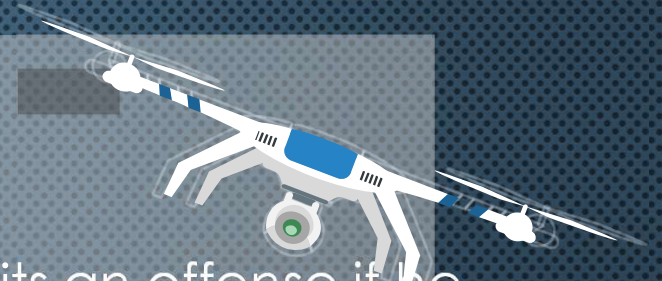
What do the Police do with a Drone call?

What types of Criminal Offenses?

Disorderly Conduct?
Tex. Pen. Code § 42.01

(a) A person commits an offense if he intentionally or knowingly:

(4) abuses or threatens a person in a public place in an obviously offensive manner

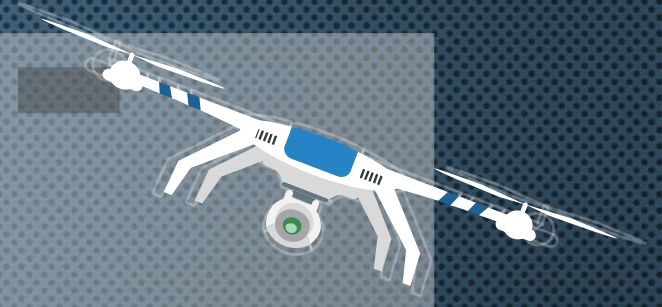


Drone Hypo

What do the Police do with this Drone call?

What types of Criminal Offenses?

We can assume he distributed the video on social media.



What is the Crime?





Federal Aviation
Administration

DRONE Law Enforcement Response

Detect all available elements of the situation; attempt to locate and identify individuals operating the drone.
(Look at windows/balconies/roof tops).

Report incident to the FAA Regional Operations Center (ROC). Follow-up assistance can be obtained through FAA Law Enforcement Assistance Program (**LEAP**) special agents.

Observe the UAS and maintain visibility of the device; look for damage or injured individuals. Note: Battery life is typically 20 to 30 minutes.

Notice features: Identify the type of device (**fixed-wing/multi-rotor**), its size, shape, color, payload (i.e., **video equipment**), and activity of device.

Execute appropriate police action: Maintain a safe environment for general public and first responders. Conduct a field interview and document ALL details of the event per the guidance provided by the FAA.
faa.gov/uas/resources/law_enforcement/

Always follow agency policies: Take appropriate action based on the facts and circumstances of the incident and site/area specific laws and rules. The FAA's enforcement action does NOT impact ANY enforcement action(s) taken by law enforcement.

Local ordinances that may apply include, but are not limited to: Reckless endangerment, criminal mischief, voyeurism, inciting violence





Federal Aviation
Administration

FAA Drone Incident Reporting

Document and provide the following information to FAA:

- Identity of operators and witnesses ([name](#), [contact information](#))
- Type of operation ([hobby](#), [commercial](#), [public/governmental](#))
- Type of device(s) and registration information ([number/certificate](#))
- Event location and incident details ([date](#), [time](#), [place](#))
- Evidence collection ([photos](#), [video](#), [device confiscation](#))

Contact your FAA LEAP agent or an FAA ROC for assistance:

Western ROC	AK, AZ, CA, CO, HI, ID, MT, NV, OR, UT, WA, WY	206-231-2089	9-WSA-OPSCTR@faa.gov
Central ROC	AR, IA, IL, IN, KS, LA, MI, MN, MO, ND, NE, NM, OH, OK, SD, TX, WI	817-222-5006	9-CSA-ROC@faa.gov
East ROC	AL, CT, FL, GA, KY, MA, ME, MS, NC, NH, PR, RI, SC, TN, VI, VT	404-305-5180	9-ESA-ROC@faa.gov
	DC, DE, MD, NJ, NY, PA, VA, WV	404-305-5150	9-ESA-ROC@faa.gov





Questions and Discussion

