

# Unmanned Aircraft Integration

Presented by: Carol Might

Date: 09 March 2017

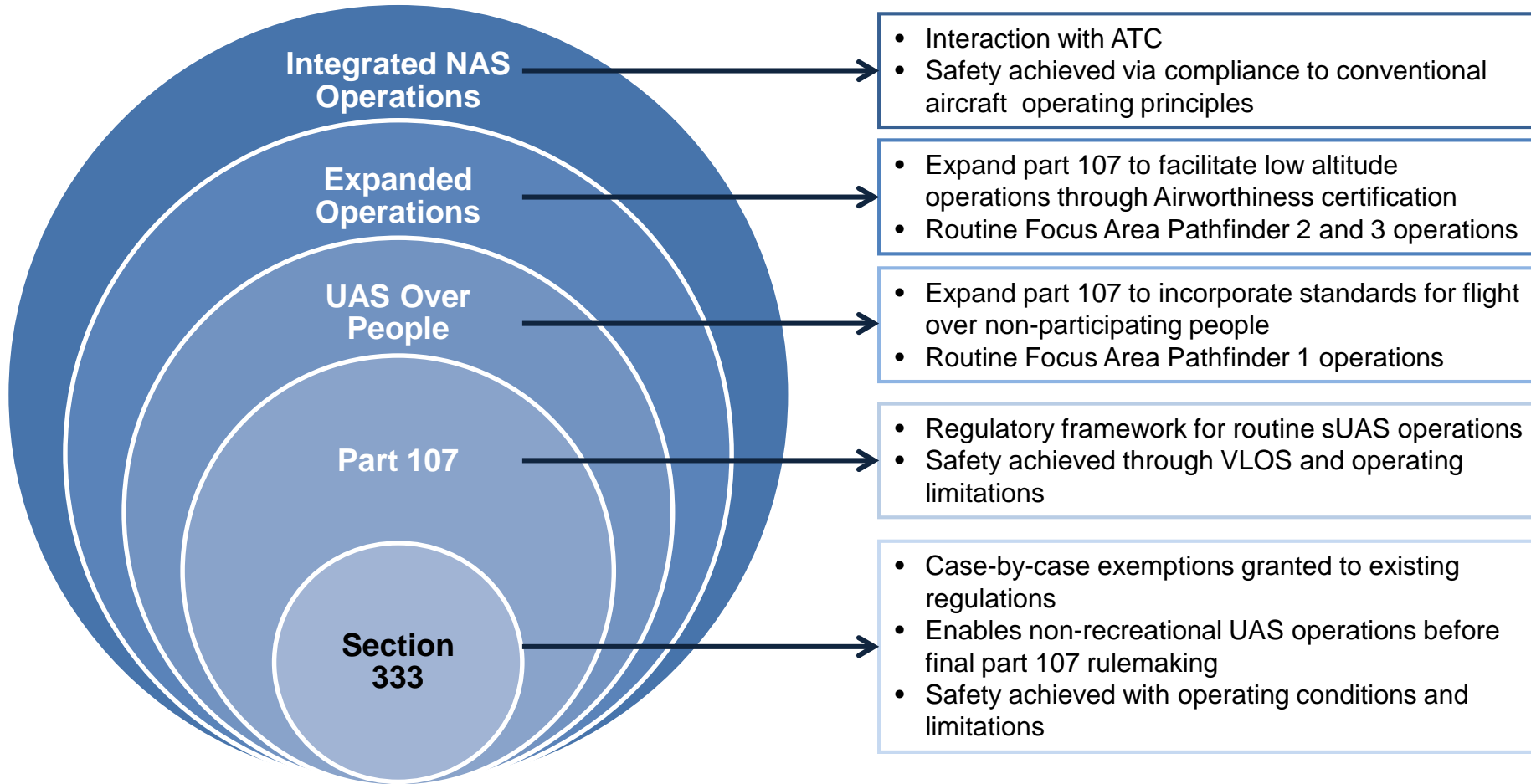


# Overview

- Review current regulatory state for UAS operations in the DC area
  - Small UAS Rule (Part 107)
  - Public Safety
  - Special Security Instruction
  - Law Enforcement
- Outreach



# Building the Regulatory Framework



# Part 107 – The Basics

- UAS operators must obtain a Remote Pilot Certificate
- Visual line-of-sight, daylight operations
- 400 feet or below in uncontrolled (Class G) airspace; other airspace requires authorization
- UAS must weigh less than 55 lbs. and be registered



# Part 107 Operating Rules

- Remote Pilot Certificate
- Registration
- Visual line-of-sight
- Daylight or civil twilight
- Not directly over people
- Must yield right-of-way to manned aircraft
- One UAS per pilot in command
- Max groundspeed of 100 mph
- Altitude 400' or 400' radius when over structure
- Airspace authorization for class B, C, D, and E surface areas



# Waivable Rules under Part 107

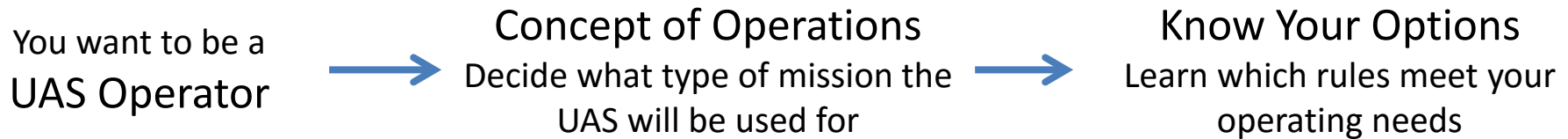
- Operation from a moving vehicle or aircraft (§ 107.25)
- Daylight operation (§ 107.29)
- Visual line of sight aircraft operation (§ 107.31)
- Visual observer (§ 107.33)
- Operation of multiple small unmanned aircraft systems (§ 107.35)
- Yielding the right of way (§ 107.37(a))
- Operation over people (§ 107.39)
- Operation in certain airspace (§ 107.41)
- Operating limitations for small unmanned aircraft (§ 107.51)

# Types of Certificate of Authorization or Waiver (COA)

- Public (governmental purpose only)
  - Federal Memorandum of Agreement (DoD, DHS, NOAA, NASA, DOI)
  - Other Federal
  - Non-Federal (state & municipal governments, state colleges and universities)
- Civil
  - Special Airworthiness Certificate
    - Experimental
    - Restricted Category
  - Section 333 (Small UAS)
- Disaster COA
  - Combined Forces Air Component Commander
  - Defense Support to Civil Authorities



# Operating a UAS as a Public Entity



## Civil Operator Rules

(14 CFR part 107)

- Requires UAS registration & operator certification
- Less burdensome to fly immediately, but less flexible airspace access

## Public Operator Rules

(14 CFR part 91 with a COA)

- Requires detailed concept of operations and specifies ATC services
- More work up front to get more flexible access to airspace

## Pilot-In-Command

Make sure the individual flying the UAS understands the rules and their pilot responsibilities



# Public Safety UAS Program

- The Federal Aviation Administration (FAA) has reviewed the Public Aircraft Operator criteria and has clarified the exclusion of government entities conducting Public Aircraft Operations (PAO) Under this clarification the government entities may exercise their own internal processes regarding:
  - Aircraft certification
  - Airworthiness
  - Pilot and aircrew
  - Maintenance personnel certification and training.

# Public Safety UAS Program

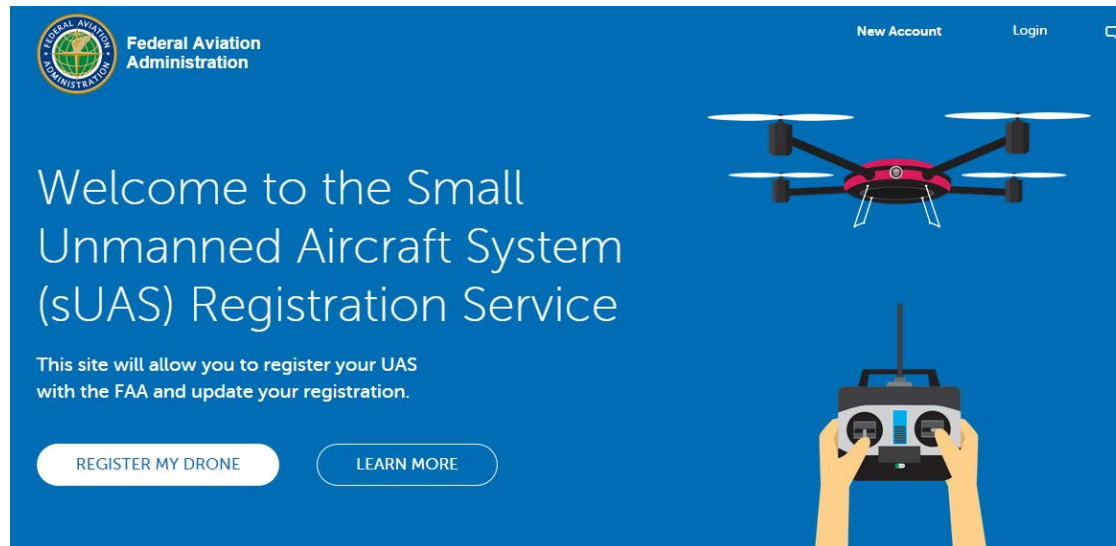
## Phased Approach

- Training COA
  - Defines training location(s)
  - Practice missions
- Jurisdictional COA
  - Defined operating area where UAS operations anticipated
  - Allow for rapid response
- Blanket COA
  - Operate outside of approved COA location
  - At or below 400 feet AGL; and
  - 5 nautical miles (NM) from an airport having an operational control tower; or
  - 3 NM from an airport having a published instrument flight procedure, but not having an operational control tower; or
  - 2 NM from an airport not having a published instrument flight procedure or an operational control tower; or
  - 2 NM from a heliport



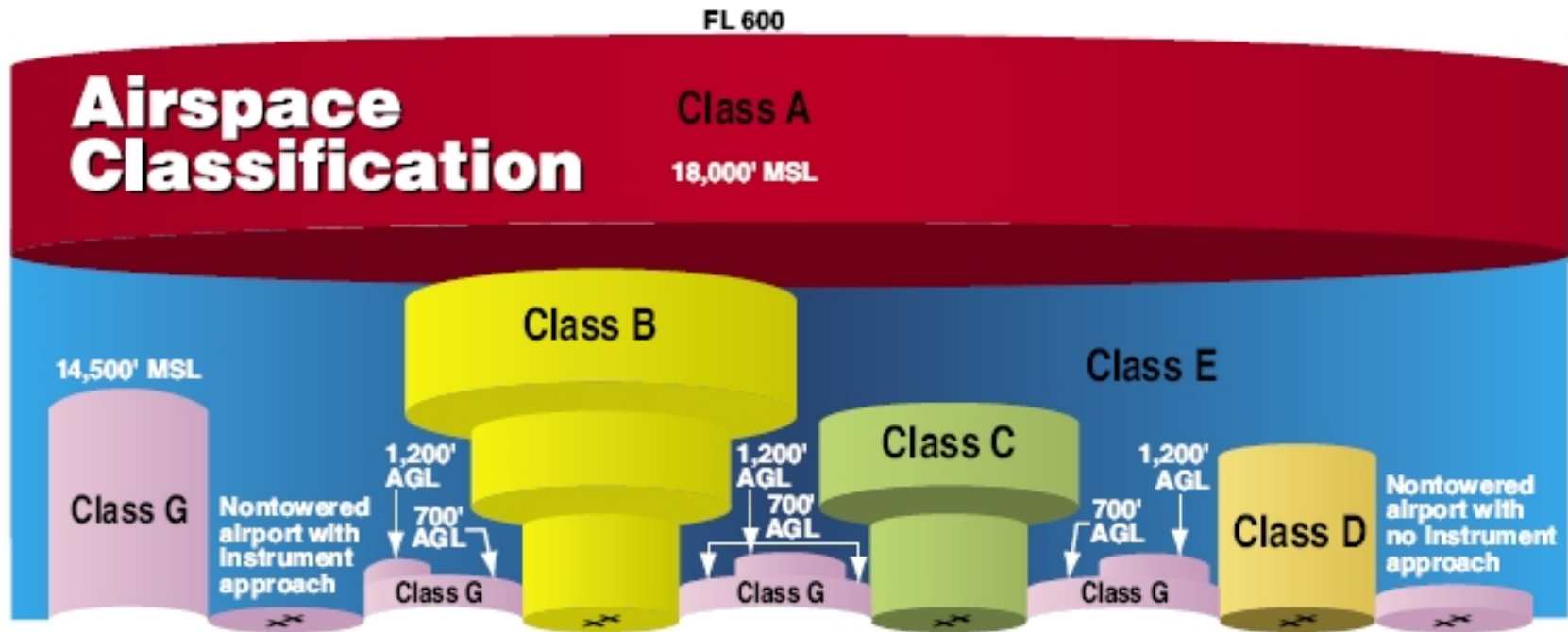
# Online UAS Registration

- Applies to small UAS 0.55-55 lbs. flown outside
- Owner must provide name, address, email
  - Non-recreational owners must provide make, model, and serial number (if available) of each sUAS



# Part 107 Airspace Requirements

- Operations in Class G are allowed without air traffic control authorization
- Operations in Class B, C, D airspaces, and Class E airspace designated for airports require authorization from ATC



# Special Governmental Interest (SGI) Addendum

## Formerly called Emergency COAs

- Operating under the authority of an active COA or Part 107
- Public and selected civil operations
- Significant and urgent governmental interests
  - National defense
  - Homeland security
  - Law Enforcement
  - Emergency operations objectives (benefiting critical public good)
    - Restoration of electrical grid
    - Critical infrastructure
- Requested operations must be flown by a governmental entity or sponsored by a government entity
- Qualifying proponents of public UAS operations must contact the System Operations Support Center (SOSC), a component of System Operations Security, at (202) 267-8276 for assistance.

# Temporary Flight Restrictions

## WHAT IS A TFR

TFR is a type of Notices to Airmen (NOTAM) that defines an area restricted to air travel due to a hazardous condition, a special event, or a general warning for the entire FAA airspace. The text of the actual **TFR** contains the fine points of the restriction.

## DIFFERENT TYPES OF TFRs

FAA issues TFRs under the following regulations:

- (1) Section 91.137, Temporary Flight Restrictions in the Vicinity of Disaster/Hazard Areas
  - A1 Protect persons and property on the surface or in the air from a hazard associated with an incident of the surface
  - A2 Provide a safe environment for the operation of disaster relief aircraft
  - A3 Prevent an unsafe congestion of sightseeing and other aircraft above an incident or event which may generate a high degree of public interest
- (2) Section 91.138, Temporary Flight Restrictions in National Disaster Areas in the State of Hawaii
- (3) Section 91.139, Emergency Air Traffic Rules
- (4) Section 91.141, Flight Restrictions in the Proximity of the Presidential and Other Parties
- (5) Section 91.143, Flight Limitation in the Proximity of Space Flight Operations
- (6) Section 91.145, Management of Aircraft Operations in the Vicinity of Aerial Demonstrations and Major Sporting Events
- (7) Section 99.7, Special Security Instructions

# Facility Safety Concerns

## FAA Extension, Safety, and Security Act of 2016 (FESSA), § 2209

- Requires the FAA to develop a process to prohibit or restrict the operation of an unmanned aircraft in close proximity to a fixed site facilities
- Allow operators or proprietors of fixed site facilities to apply for designation individually or collectively
- Only the following may be considered fixed site facilities
  - Critical infrastructure, such as energy production and transmission equipment
  - Oil refineries and chemical facilities
  - Amusements parks
  - Other locations that warrant such restriction
- Establishment of procedures are on going

# Temporary Flight Restrictions

## WHO CAN REQUEST A TFR

A TFR may be requested by various entities, including: military commands; federal security/intelligence agencies; regional directors of the Office of Emergency Planning, Civil Defense State Directors; civil authorities directing or coordinating organized relief air operations (e.g., Office of Emergency Planning; law enforcement agencies; U.S. Forest Service; state aeronautical agencies); State Governors; FAA Flight Standards District Office, aviation event organizers, or sporting event officials.

## WHO CAN ISSUE A TFR?

FAA Headquarters or the Directors of Terminal or En Route and Oceanic Area Operations (or their designee) having jurisdiction over the area concerned may issue a TFR.



# Section 99.7 Special Security Instruction

## **What is the purpose and use of a TFR issued under this section?**

The FAA, in consultation with the Department of Defense, or other Federal security/intelligence agencies may issue special security instructions to address situations determined to be detrimental to the interests of national defense.

## **Who can request a TFR under this section?**

The Department of Defense, or other Federal security/intelligence agency may request a TFR under this section.

# SPECIAL SECURITY INSTRUCTION, UAS Operations, NCR

## Special Flight Restricted Zone NOTAM FDC 1/1155

'NATIONAL DEFENSE AIRSPACE'

- 15 NM Radius of DCA/VOR/DME below FL180
- Part 107 and Hobby / Recreation UAS operations are prohibited

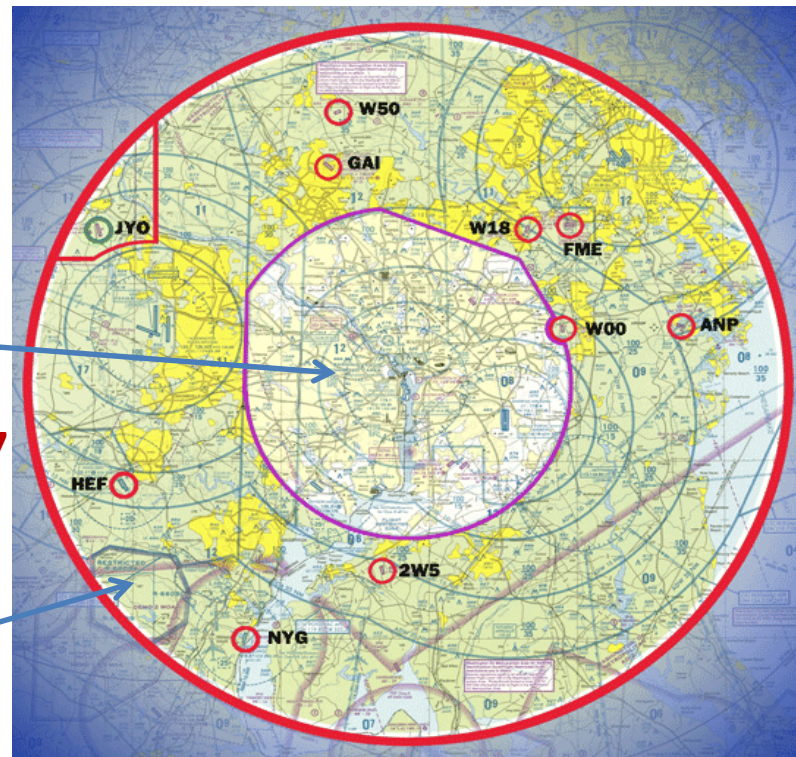
## Special Flight Rules Area (SFRA) NOTAM FDC 6/1117

- 30 NM Radius of DCA/VOR/DME below FL180
- Model aircraft UAS operations are authorized
  - Must be registered
  - Less than 55 lbs.
  - At or below 400 feet

Visual line of sight, VMC, daylight, and SVFR not authorized

Within 5 miles of airport notification to the airport operator and or ATC

- Commercial Operators are required to operate in accordance with 14 CFR Part 107 or under a 333 exemption/COA
- Public Operators require a COA



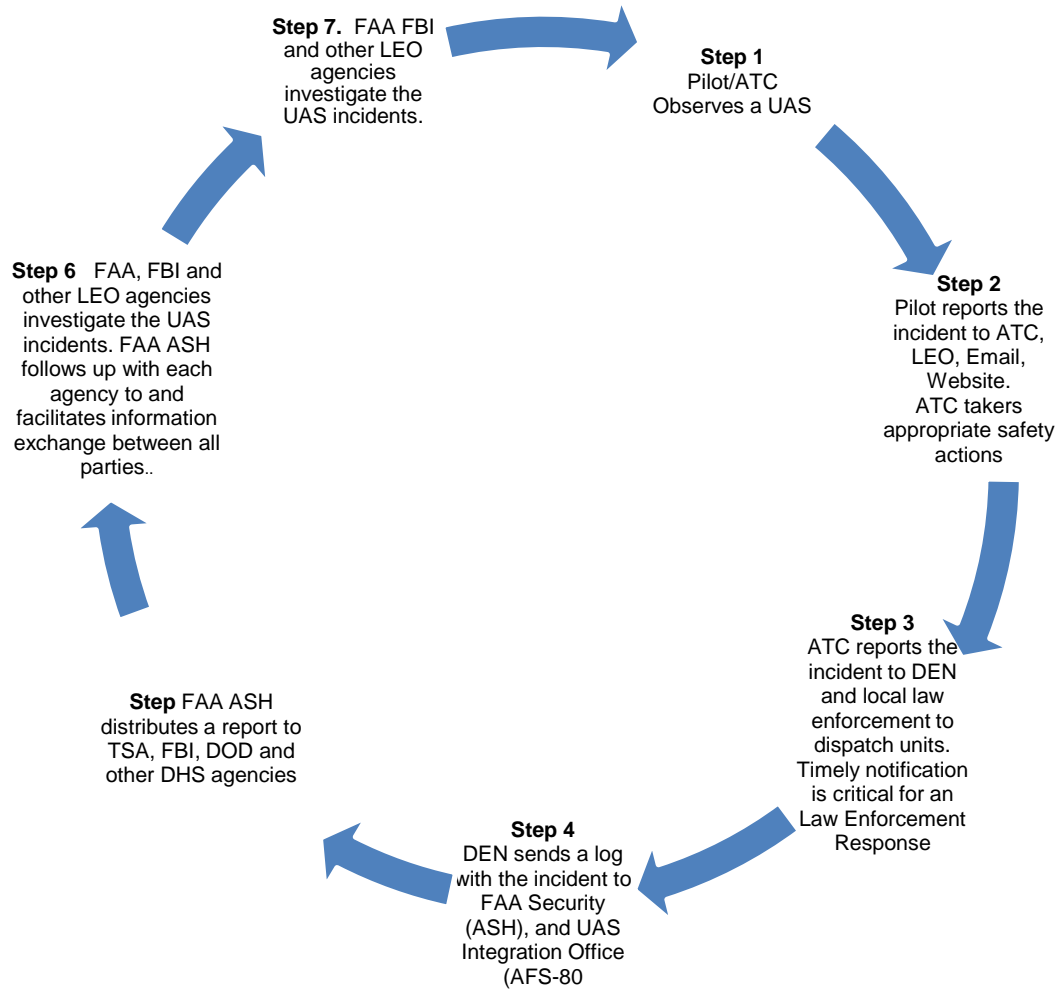


# The Domestic Events Network (DEN)

The ATSC team at FAA headquarters manages the Domestic Events Network (DEN), the primary 24/7, unclassified tool used by the interagency for Air Domain security situational awareness and response coordination



# UAS Event Reporting Cycle



# Education, Compliance, and Enforcement

- FAA's primary approach to new UAS operators is education
- FAA has authority to take enforcement action against any persons who operate a UAS:
  - In violation of the Federal Aviation Regulations (FARs)
  - In a manner that endangers the safety of the NAS or people and property on the ground
- Enforcement tools include:
  - Warning notices, letters of correction, civil penalties

# Law Enforcement's Role

- State and local Law Enforcement Agencies (LEAs) are often in the best position to respond to unauthorized or unsafe UAS operations
- FAA works with LEAs to educate and provide guidance on authority
- Law Enforcement Guidance is available at:  
[www.faa.gov/uas/law\\_enforcement](http://www.faa.gov/uas/law_enforcement)



# Basic Law Enforcement Response **D.R.O.N.E.**

**D**irect attention outward and upward, attempt to locate and identify individuals operating the drone. (Look at windows/balconies/roof tops).

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

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

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

**E**xecute 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. [www.faa.gov/uas/resources/law\\_enforcement/](http://www.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.







# 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 Operations Center for assistance.

FACILITY	STATES	PHONE NUMBER	EMAIL
<b>Western ROC</b>	AK, AZ, CA, CO, HI, ID, MT, NV, OR, UT, WA and WY	425-227-1999	9-WSA-OPSCTR@faa.gov
<b>Central ROC</b>	AR, IA, IL, IN, KS, LA, MI, MN, MO, ND, NE, NM, OH, OK, SD, TX and WI	817-222-5006	9-CSA-ROC@faa.gov
<b>East ROC</b>	AL, CT, FL, GA, KY, MA, ME, MS, NC, NH, PR, RI, SC, TN, VI and VT	404-305-5180	9-ASO-ROC@faa.gov
<b>East ROC</b>	DC, DE, MD, NJ, NY, PA, VA and WV	404-305-5150	7-AEA-ROC@faa.gov



# UAS Outreach and Education



## I FLY SAFE

All drones are aircraft—even the ones at the toy store. So when I fly a drone I am a pilot. Before I fly I always go through my pre-flight check list. I regularly check the safety guidelines at [faa.gov/uas](http://faa.gov/uas)

**FLY SMART, FLY SAFE, AND HAVE FUN!**

[knowbeforeyoufly.org](http://knowbeforeyoufly.org)  
[faa.gov/uas](http://faa.gov/uas)

### PRE-FLIGHT CHECKLIST

- I fly below 400 feet
- I always fly within visual line of sight
- I'm aware of FAA airspace requirements: [faa.gov/go/uas/fr](http://faa.gov/go/uas/fr)
- I never fly over groups of people
- I never fly over stadiums and sports events
- I never fly within 5 miles of an airport without first contacting air traffic control and airport authorities
- I never fly near emergency response efforts such as fires
- I never fly near other aircraft
- I never fly under the influence


**Federal Aviation Administration**

