PRIMA'S 2017 RISK MANAGEMENT
WEBINAR SERIES

Drones-Rules and Regulations and their use in Risk Management

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City of Plano, Texas

Objectives

Unmanned Aircraft Systems

- What are they?
- What are the rules?
- Insurance
- What can they be used for?
- Law Enforcement?



What are they?

- Unmanned Aircraft Systems (UAS) aka drone
- Remote piloted
- Weigh *less than 55 lbs. and more than 0.55 lbs.*
- *Ability to capture audio, video and photographs*
- *Battery or gas powered*



What are the Rules?



Prior to August 29th, 2016

Certificate of Authorization or Waiver (COA)

- **Public**
  - Federal Memorandum of Agreement (DoD, DHS, NOAA, NASA, DOI)
  - Other Federal
  - Non-Federal (State & municipal governments, state colleges and universities)
  - Must be for a governmental purpose
- **Civil**
  - Special Airworthiness Certificate (SAC)
    - Experimental
    - Restricted Category
  - Section 333 (Small UAS)

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Certificate of Authorization

Phase 1 – Administrative Review

- Review for proper attachments and basic compliance(transponder, night operations, class of airspace, etc)
- When complete, update COA on-line that the administrative review is complete.

Phase 2 – ATC Feasibility

- Review of operating location, altitudes, routes, etc.
- When complete, add any provisions requested by the Service Area to the draft COA.
- Update COA on-line that the Feasibility Review is complete.



Certificate of Authorization

Phase 3 – Flight Standards Review

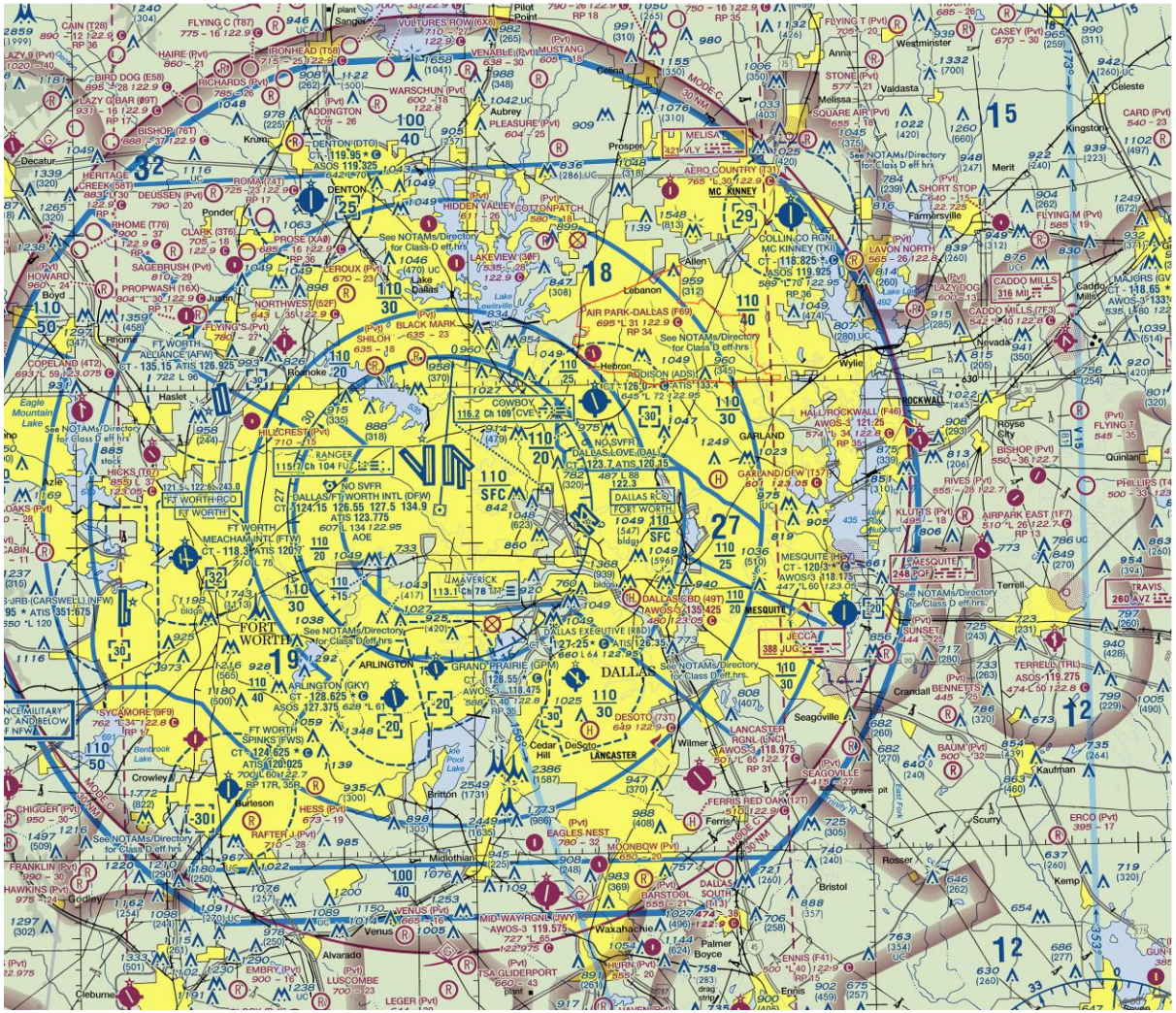
Phase 4 – ATC Review

- Add mitigations from the Program Letter to the Flight Standards Special Provisions section of the draft COA.
- Send the draft COA to the appropriate service area with any Special Provisions provided in
- Phase 2 and Phase 3. This is called the 95%. Include any attachments necessary (ie operating area, Lost Link).
- The Service Area will return the 95% back with any additional Special Provisions required in red. This is called the 99

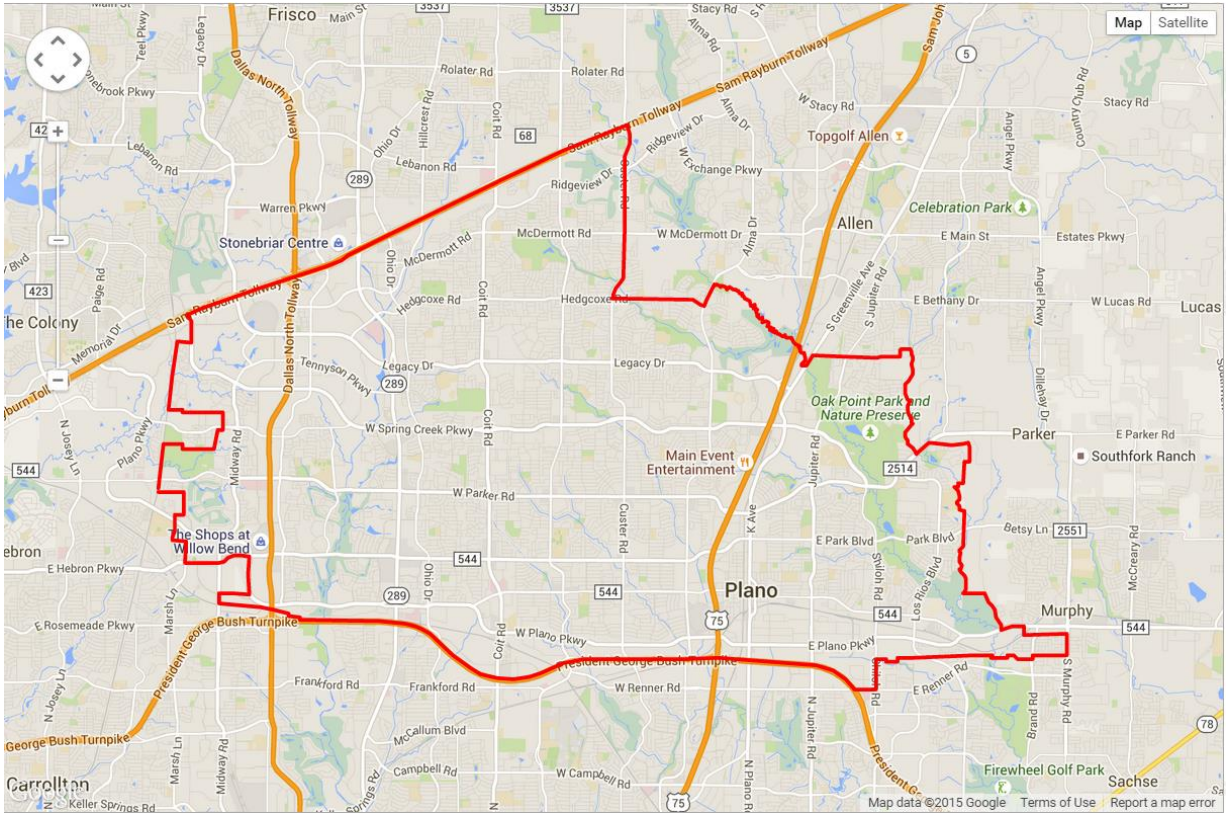
Phase 5 – Signature

- Finalized and sent for signature.

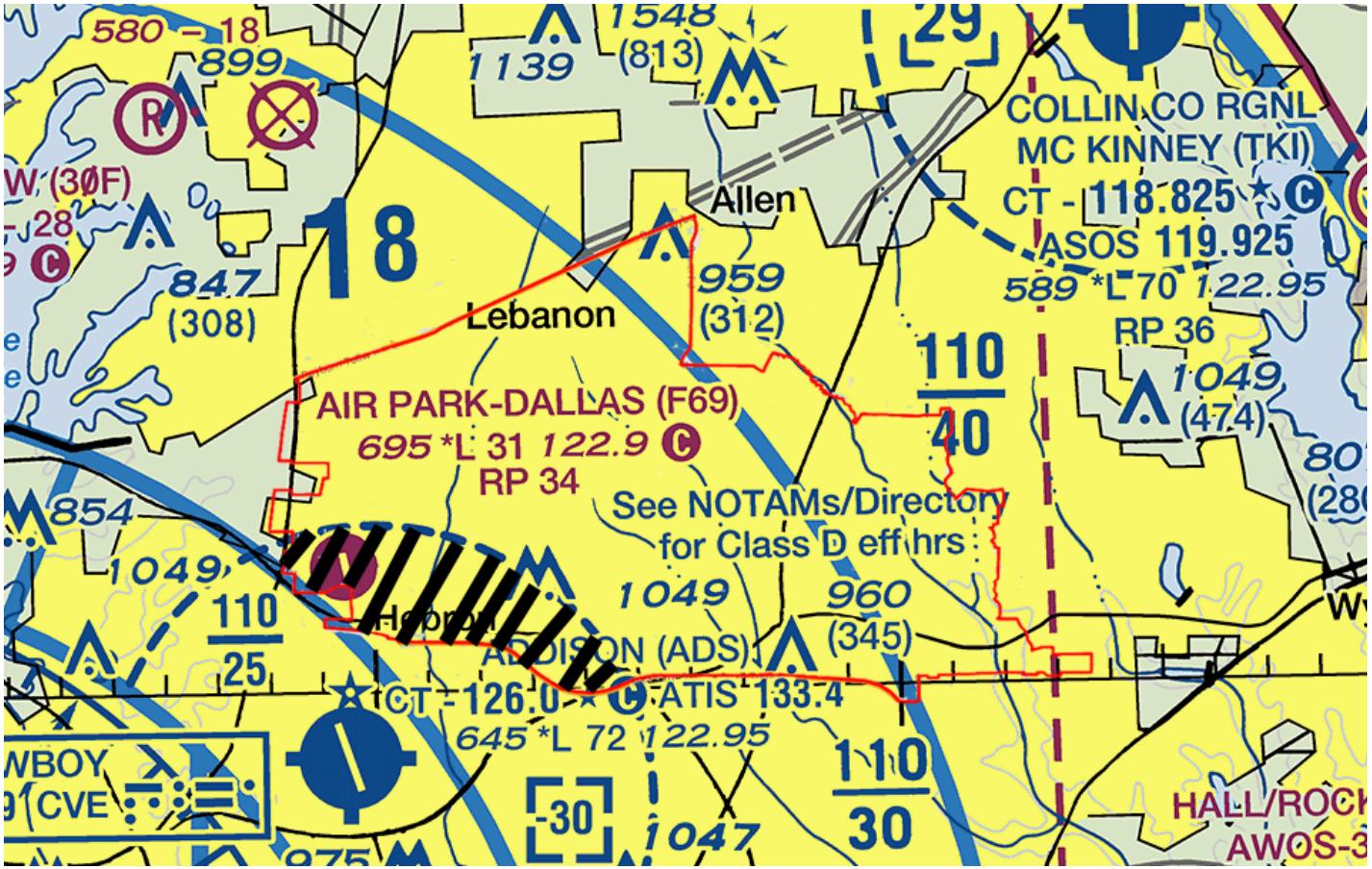
Certificate of Authorization



Certificate of Authorization



Certificate of Authorization



Certificate of Authorization

Limitations:

- Maximum altitude is 400’
- Flights are only permitted from dawn to dusk
- Flights are only permitted over City owned property unless under the direction of law enforcement or with written consent of property owner
- Photos and videos are not permitted to be used for commercial purposes

Certificate of Authorization

DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

CERTIFICATE OF WAIVER OR AUTHORIZATION

ISSUED TO:
City of Plano
Attn: Tim Billingham
1520 K Ave Suite 117
Plano, TX 75074

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.

OPERATION'S AUTHORIZED
Operation of small Unmanned Aircraft System(s) weighing less than 55 lbs., in Class G airspace at or below 400 feet Above Ground Level (AGL) under the provisions of this authorization. See Special Provisions.

LIST OF WAIVED REGULATIONS BY SECTION AND TITLE
N/A

STANDARD PROVISIONS

1. A copy of the application made for this certificate shall be attached and become a part hereof.
2. This certificate shall be presented for inspection upon the request of any authorized representative of the Federal Aviation Administration, or of any State or municipal official charged with the duty of enforcing local laws or regulations.
3. The holder of this certificate shall be responsible for the strict observance of the terms and provisions contained herein.
4. This certificate is nontransferable.

Note-This certificate constitutes a waiver of those Federal rules or regulations specifically referred to above. It does not constitute a waiver of any State law or local ordinance.

SPECIAL PROVISIONS

Special Provisions are set forth and attached.

This certificate, 2015-CSA-159, is effective from July 22, 2016 through July 21, 2018 and is subject to cancellation at any time upon notice by the Administrator or his/her authorized representative. Should a renewal become necessary, the Proponent shall advise the Federal Aviation Administration (FAA), in writing, no later than 45 business days prior to the requested effective date.

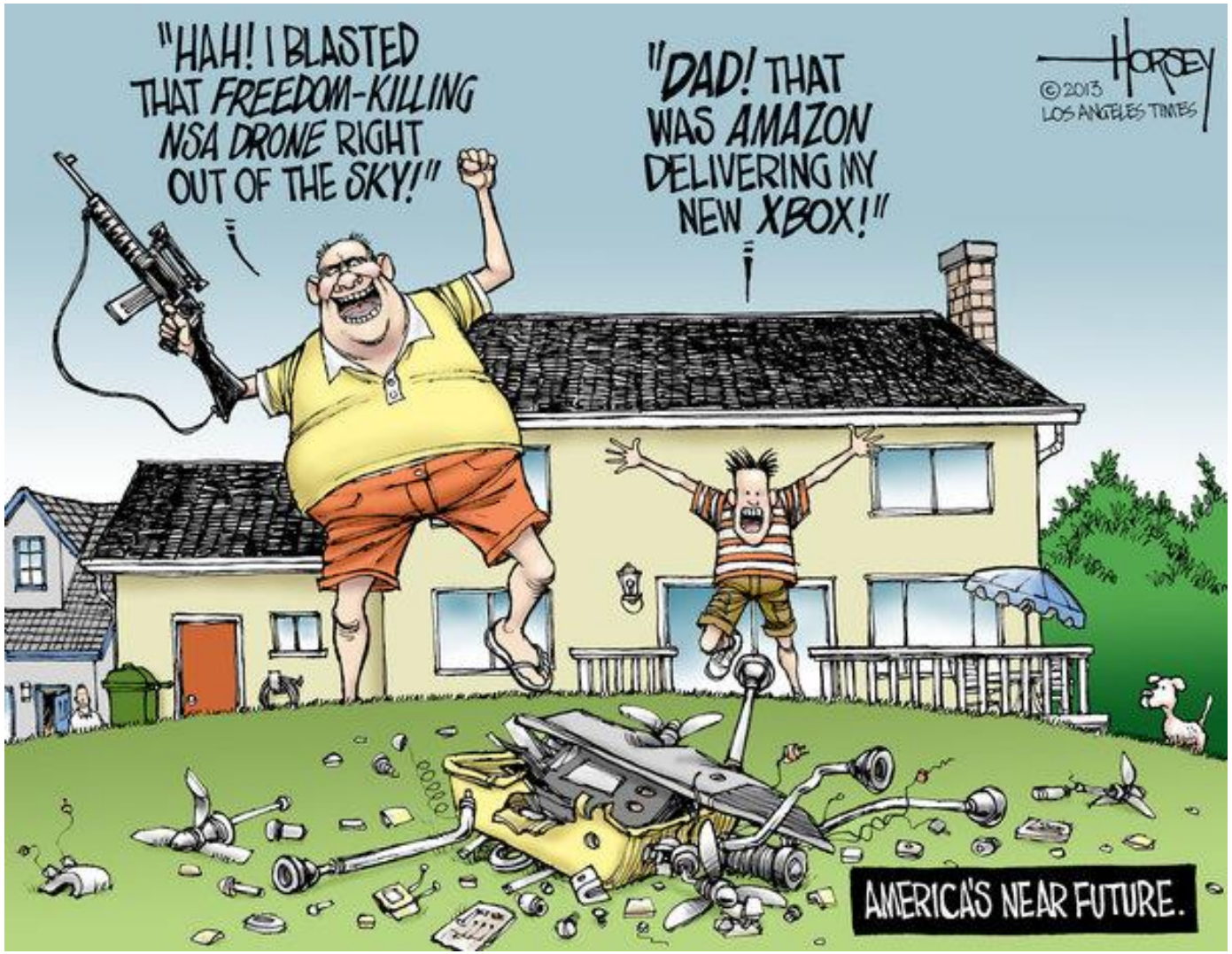
BY DIRECTION OF THE ADMINISTRATOR

FAA Headquarters, AJV-115 (Region)	Scott J. Gardner (Signature)
July 21, 2016 (Date)	Acting Manager, UAS Tactical Operations Section (Title)

FAA Form 7711-1 (7-74)

Section 333 Waiver

- Mainly used for media and commercial use to be permitted to fly.


"HAH! I BLASTED THAT FREEDOM-KILLING NSA DRONE RIGHT OUT OF THE SKY!"
"DAD! THAT WAS AMAZON DELIVERING MY NEW XBOX!"
HORSEY
©2013 LOS ANGELES TIMES
AMERICA'S NEAR FUTURE.

14 CFR 107

- Effective August 29th, 2016,
- Numerous changes from previous regulation
- UAS Pilot license now required
- COA's and Section 333 to be phased out
- As of January 1st 2017, 30,000 have applied, 16,000 have taken the exam with a 90% pass rate
- 670,000 drones have been registered; 37,000 of which were the last two weeks of December

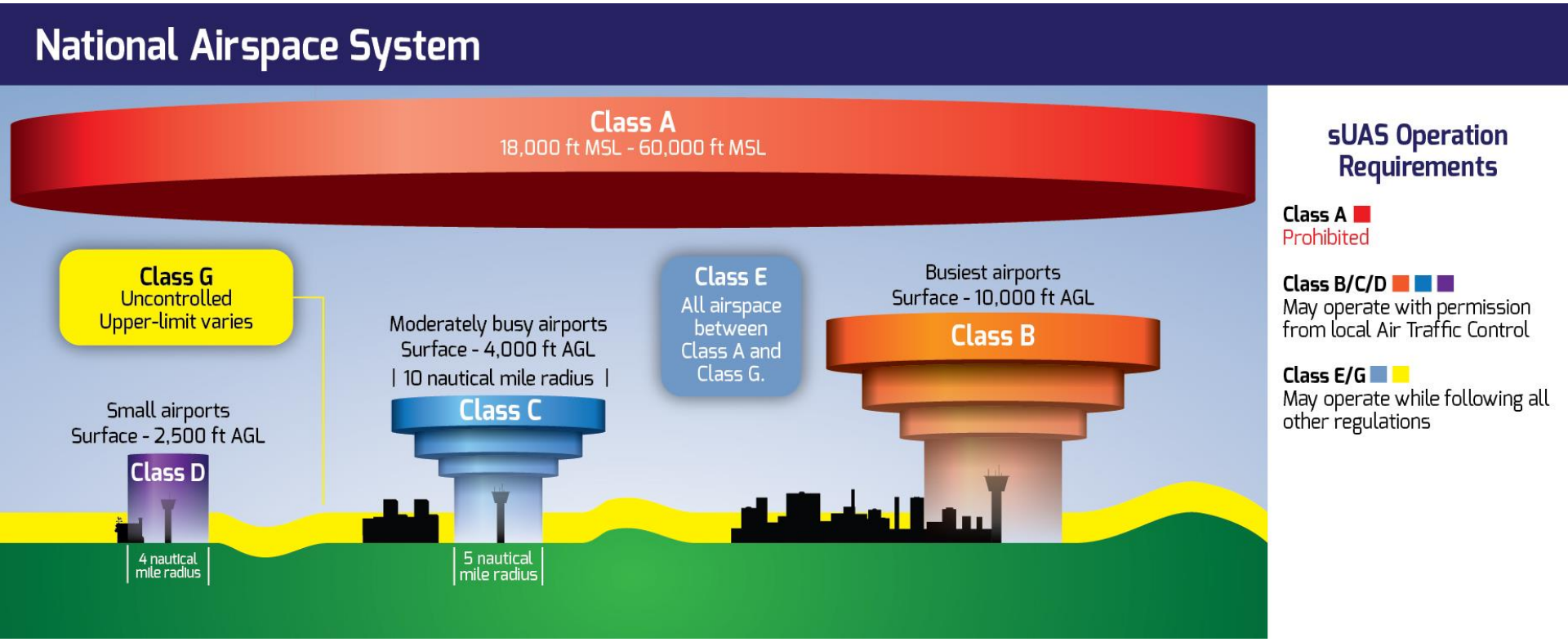
	FLY FOR FUN	FLY FOR WORK
Pilot Requirements	No pilot requirements	Must have Remote Pilot Airman Certificate Must be 16 years old Must pass TSA vetting
Aircraft Requirements	Must be registered if over 0.55 lbs.	Must be less than 55 lbs. Must be registered if over 0.55 lbs. (online) Must undergo pre-flight check to ensure UAS is in condition for safe operation
Location Requirements	5 miles from airports without prior notification to airport and air traffic control	Class G airspace*
Operating Rules	Must ALWAYS yield right of way to manned aircraft Must keep the aircraft in sight (visual line-of-sight) UAS must be under 55 lbs. Must follow community-based safety guidelines Must notify airport and air traffic control tower before flying within 5 miles of an airport	Must keep the aircraft in sight (visual line-of-sight)* Must fly under 400 feet* Must fly during the day* Must fly at or below 100 mph* Must yield right of way to manned aircraft* Must NOT fly over people* Must NOT fly from a moving vehicle*
Example Applications	Educational or recreational flying only	Flying for commercial use (e.g. providing aerial surveying or photography services) Flying incidental to a business (e.g. doing roof inspections or real estate photography)
Legal or Regulatory Basis	Public Law 112-95, Section 336 – *Special Rule for Model Aircraft* FAA Interpretation of the Special Rule for Model Aircraft	Title 14 of the Code of Federal Regulation (14 CFR) Part 107

14 CFR 107

Key points under the new regulations:

- Small unmanned aircraft may not operate over any persons not directly participating in the operation, not under a covered structure, and not inside a covered stationary vehicle.
- Daylight-only operations, or civil twilight (30 minutes before official sunrise to 30 minutes after official sunset, local time) with appropriate anti-collision lighting.
- Must yield right of way to other aircraft.
- May use visual observer (VO) but not required.
- First-person view camera cannot satisfy “see-and-avoid” requirement but can be used as long as requirement is satisfied in other ways.
- Maximum groundspeed of 100 mph (87 knots).
- Maximum altitude of 400 feet above ground level (AGL) or, if higher than 400 feet AGL, remain within 400 feet of a structure.
- Minimum weather visibility of 3 miles from control station.
- Operations in Class B, C, D and E airspace are allowed with the required ATC permission.
- Operations in Class G airspace are allowed without ATC

Airspace


National Airspace System
Class A
18,000 ft MSL - 60,000 ft MSL
Class G
Uncontrolled
Upper-limit varies
Small airports
Surface - 2,500 ft AGL
Class D
4 nautical mile radius
Moderately busy airports
Surface - 4,000 ft AGL
| 10 nautical mile radius |
Class C
5 nautical mile radius
Class E
All airspace between Class A and Class G.
Busiest airports
Surface - 10,000 ft AGL
Class B
sUAS Operation Requirements
Class A
Prohibited
Class B/C/D
May operate with permission from local Air Traffic Control
Class E/G
May operate while following all other regulations

Waivable Sections of Part 107

Your request for a waiver may be granted if the FAA finds that the proposed operation can be safely conducted under the terms of that Certificate of Waiver.

A list of the waivable sections of part 107 can be found in 14 CFR part 107.205 and are listed below:

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

Sources: 14 CFR parts 107.200 and 107.205; AC 107-2, *Small Unmanned Aircraft Systems (sUAS)* (as amended)

Accident Reporting

The Remote PIC must report any small UAS accident to the FAA, within 10 calendar days of the operation, if any of the following thresholds are met:

- **Serious injury** to any person or any loss of consciousness
- **Damage** to any property, other than the small unmanned aircraft, if the cost is greater than $500 to repair or replace the property (whichever is lower)

File the report:

- **Electronically,** via the FAA online small UAS accident reporting website
- **By phone to:**
  - The appropriate FAA Regional Operations Center
  - The nearest Flight Standards District Office (FSDO)

Visit the Resources page to access the accident reporting website or contact information for the FSDOs and Regional Operations Centers (listed in AC 107-2,*Small Unmanned Aircraft Systems (sUAS)* (as amended))

Sources: 14 CFR part 107.9; AC 107-2, *Small Unmanned Aircraft Systems (sUAS)* (as amended)

Accident Reporting: Serious Injury Threshold

Under 14 CFR part 107, a serious injury qualifies as Level 3 or higher on the Abbreviated Injury Scale (AIS) of the Association for the Advancement of Automotive Medicine. This scale is an anatomical scoring system that is widely used by emergency medical personnel.

It would be considered a serious injury **if a person requires hospitalization, but the injury is fully reversible** including, but not limited to:

- Head trauma
- Broken bone(s)
- Laceration(s) to the skin that requires suturing

Sources: 14 CFR part 107(III)(I)(2); AC 107-2, *Small Unmanned Aircraft Systems (sUAS)*

Accident Reporting: Required Information

Category	Required Information
Remote PIC Information	•Name •Contact Information •FAA Airman Certificate Number
Aircraft Information	•Registration Number (N-number or unique identifier issued in accordance with 14 CFR part 48)
Accident Information	•Location of the Accident •Date and Time of the Accident •Person(s) Injured and Extent of Injury (if any or known) •Property Damaged and Extent of Damage (if any or known) •Description of What Happened

In addition to this FAA report, and in accordance with the criteria established by the National Transportation Safety Board (NTSB), certain small UAS accidents must also be reported to the NTSB.

FAA PHONE APP

- B4UFLY app alerts operators to airspace restrictions or requirements in effect in the areas where they want to fly.



FAA PHONE APP



Insurance

AIG

Atlanta Branch
1200 Abernathy Road N.E., Building 600
Atlanta, GA 30328
Phone: (404) 249-1800
Fax: (404) 853-3120

New Policy #: [redacted]

AIG AEROSPACE UNMANNED AIRCRAFT INSURANCE BINDER

Agent: Aline Grimley
Company: ARTHUR J. GALLAGHER RISK MAGM'T SER
Fax #: 866-276-5587
Policy Inception: 08/04/16 Expiration: 8/4/2017

From: Carson Lyons
Date: August 4, 2016
Insured: City of Plano, Texas
1520 Avenue K, Suite 117, Plano, TX 75074

These Coverages are bound per the terms, conditions, and endorsements of our quote of 08/04/16

N #	Year	Acft	Value	Cov	NIM	IM	Liability	Med Pay	Premium
N117PN	2015	Blade 350 QX3	$1,000	G-FLT	100	100	$1,000,000	5000	$ 1,310

S #	Spec Equip	Value	EEL	Premium
	Not Covered			N/A

S #	Ground Equip	Value	EEL	Premium
	Not Covered			N/A

S #	Spares	Value	EEL	Premium
	Not Covered			N/A

Broad Form Coverages: Per quote

TRIA Liabi $211 TRIA Hull $ 1

This binder contains a broad outline of coverage and does not include all the terms, conditions and exclusions of the policy (or policies) that may be issued to you. The policy (or policies) contain the full and complete agreement with regard to coverage. Please review the policy (or policies) thoroughly with your broker upon receipt and notify us promptly in writing if you have any questions. In the event of any inconsistency between the binder and the policy, the policy language shall control unless the parties agree to an amendment.

TRIA Coverage has been ACCEPTED **, per your instructions.**

Total Annual Premium: **$1,522**

Policy # : [redacted]
Producer Commission: 0.%
Issuing Company: Commerce & Industry

Risk Management Uses

Possible ideas for use:

- Storm damage assessment
- Aerial mapping of accident scenes
- Aerial views at structure/grass fires
- City events
- Various Law Enforcement uses*
- Aerial views of building construction, progress

*Additional information needed for mandated reporting

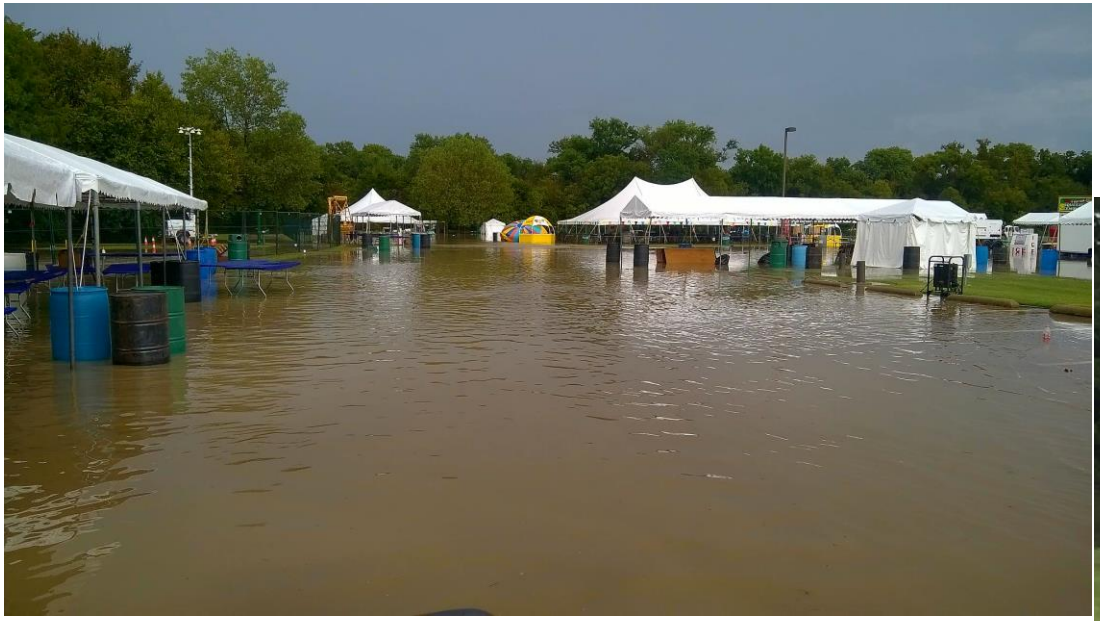
Risk Management Uses







Risk Management Uses





Risk Management Uses











Freedom of Information Act

- Any and all video, audio and images captured during a flight can be subject to FIA.
- Know your agencies policies and procedures for record retention.
- Make sure you have space to store what you capture for the time needed.

Enforcing the Law



Enforcing the Law

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

Direct attention outward and upward, 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 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. 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.*

Enforcing the Law

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
Western ROC	AK, AZ, CA, CO, HI, ID, MT, NV, OR, UT, WA and WY	425-227-1999	9-WSA-OPSCTR@faa.gov
Central ROC	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
East ROC	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
East ROC	DC, DE, MD, NJ, NY, PA, VA and WV	404-305-5150	7-AEA-ROC@faa.gov

Law Enforcement Use



Law Enforcement Use

- Know your State and Local laws
  - Some require additional reporting
- Have public education on what the purpose is and how it will be used
- Have a strong policy that includes who, what when, where and why.
- Some needs may require a warrant