



Seattle Police Department



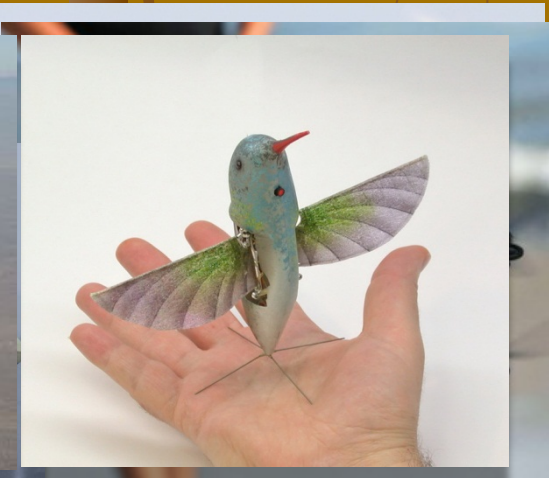
Unmanned Aerial Systems
(UAS)

What is an Unmanned Aerial System?

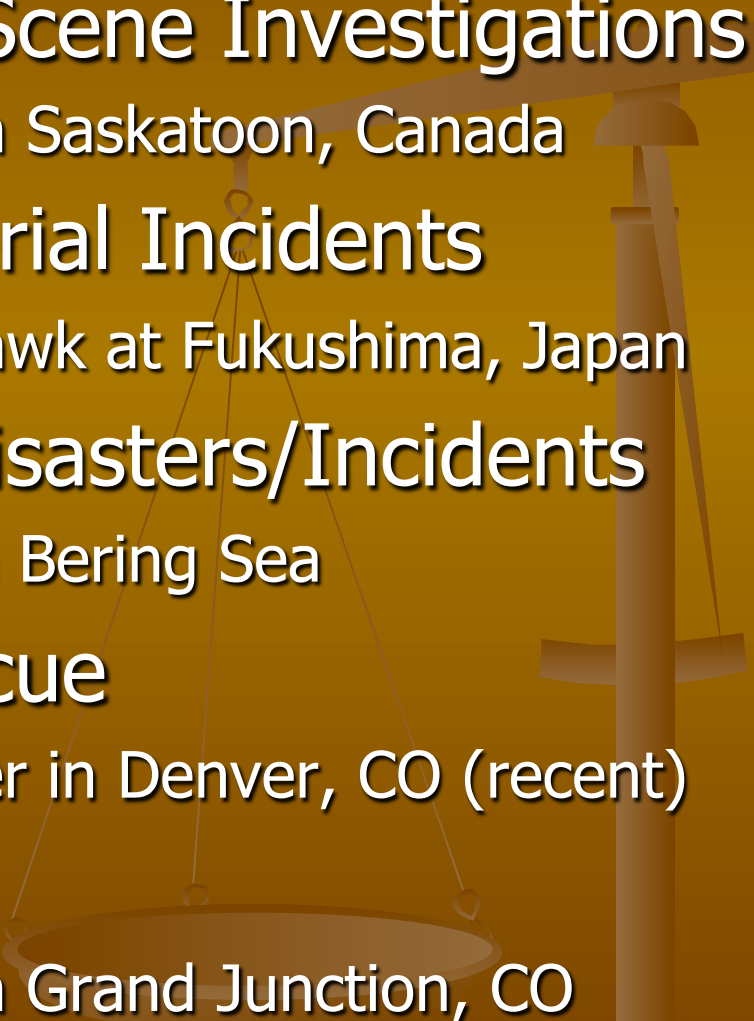
UAV, UAS, drone or hobby

It is an unmanned aircraft and all of the associated support equipment necessary to operate the unmanned aircraft.

- Various shapes
- Various sizes
- Diverse purposes

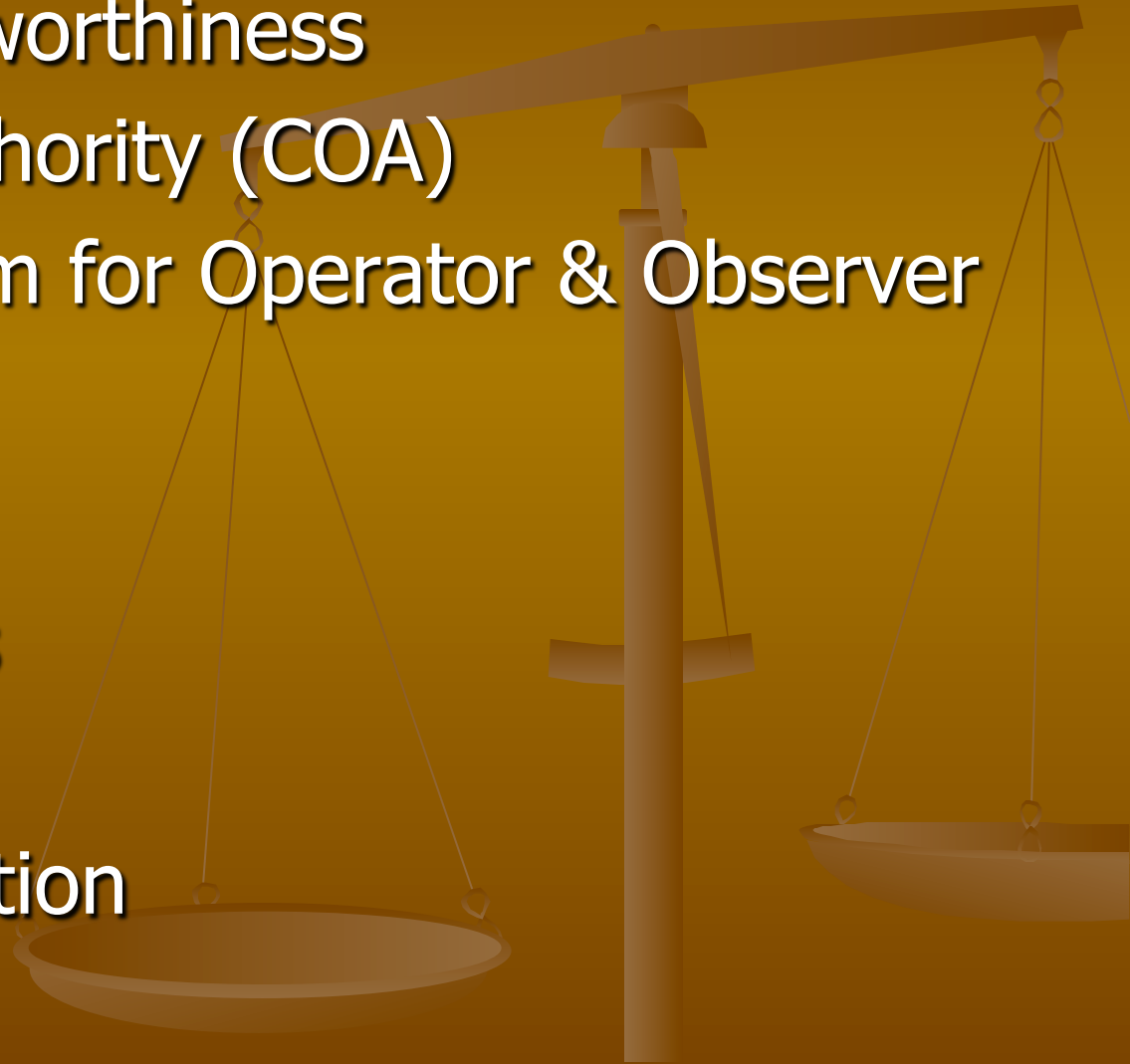


Actual Uses of a UAS for First Responders

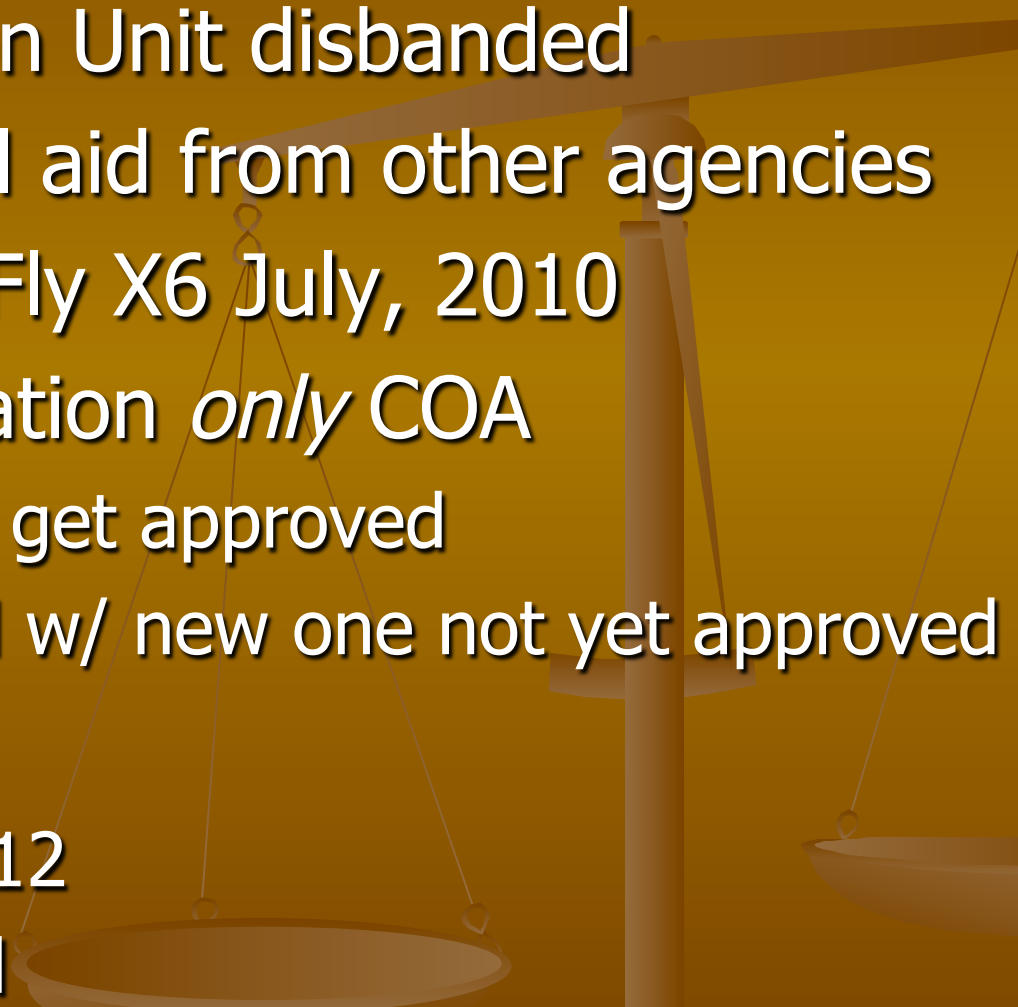
- Outdoor Crime Scene Investigations
 - DraganFly X6 in Saskatoon, Canada
 - Hazardous Material Incidents
 - Honeywell T-Hawk at Fukushima, Japan
 - Large Natural Disasters/Incidents
 - Datron Scout in Bering Sea
 - Search and Rescue
 - Lepton Avenger in Denver, CO (recent)
 - Mutual Aid
 - DraganFly X6 in Grand Junction, CO
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FAA Requirements & Rules

- Certificate of Airworthiness
- Certificate of Authority (COA)
- FAA Medical Exam for Operator & Observer
- Ground School
- Flight School
- Visual flight rules
- Line of sight
- Below 400' elevation



A Look at SPD

- 1974 SPD Aviation Unit disbanded
 - Rely upon mutual aid from other agencies
 - Acquired DraganFly X6 July, 2010
 - Training & Evaluation *only* COA
 - 9 mo. process to get approved
 - Currently expired w/ new one not yet approved
 - Full Use COA
 - Submitted 04/2012
 - Not yet approved
- 



The DraganFly X6



- Light weight & rapidly deployable
- Maximum take-off weight: 4.4 pounds
- 11 onboard sensors for flight stability
- Data logging of flight
- Integrated fail-safe systems
- 10kts max. wind (gentle breeze)
- Rechargeable Lithium Polymer batteries
- COTS camera options

Local Events

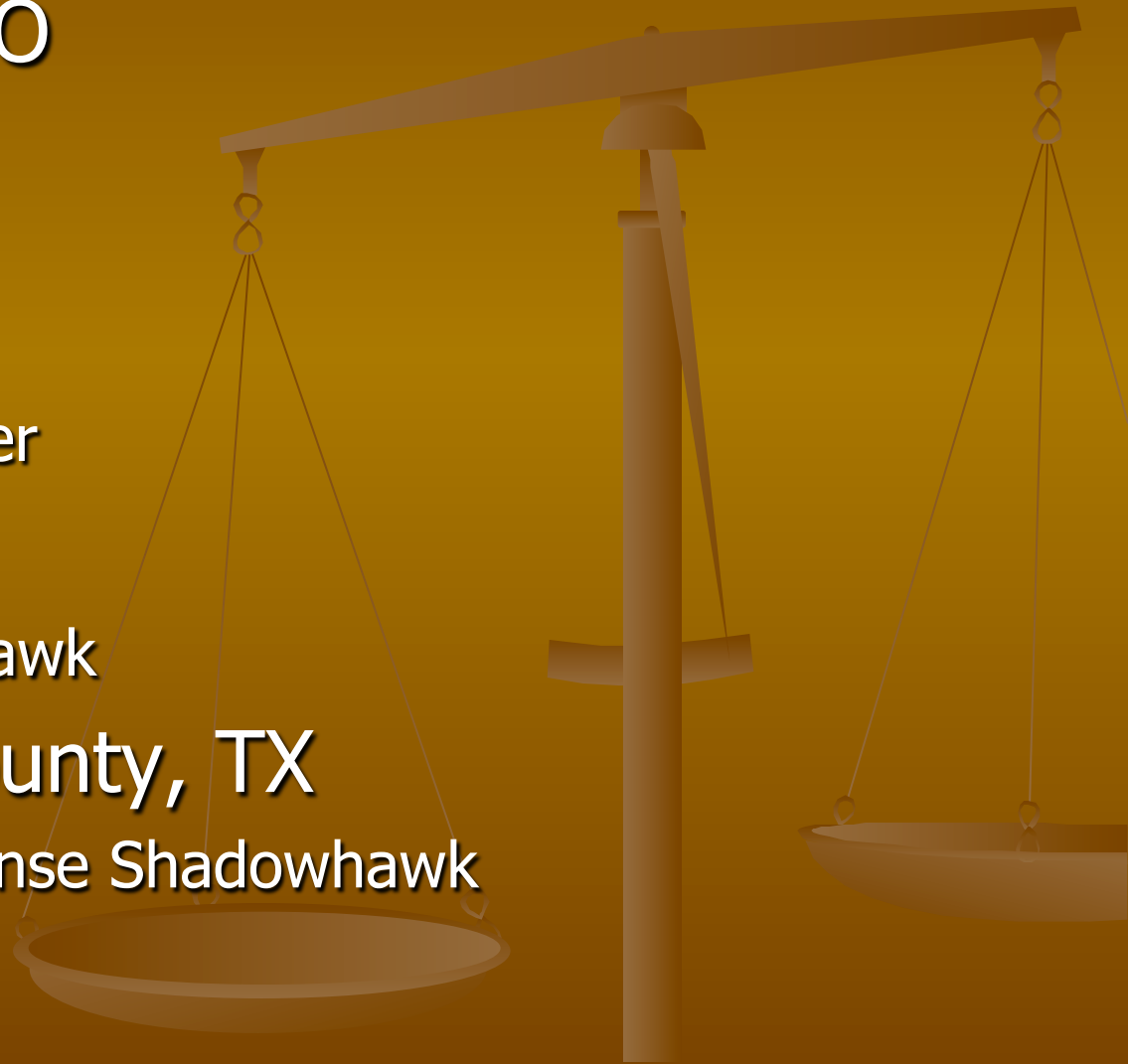
- 08/2012 I-5 semi-truck HAZMAT spill
- 05/2012 Outdoor homicide investigation
- 05/2012 Café Racer shooting investigation
- 09/2011 North-End natural gas explosion
- 09/2011 South-End HAZMAT home
- 09/2010 Sunny Jim warehouse fire

Constitutional Concerns

- 4th Amendment – guards against unreasonable search and seizure.
 - California v. Ciraolo: the court ruled there was no intrusion of privacy because any member of the public could see the contents of his property from the air.
 - Florida v. Riley: upheld constitutional search as Riley left part of the greenhouse open to public view, even from the air.

UAS in the US

- Mesa County, CO
 - DraganFly X6
 - Falcon UAS
- Arlington, TX
 - Leptron Avenger
- Miami-Dade, FL
 - Honeywell T-Hawk
- Montgomery County, TX
 - Vanguard Defense Shadowhawk



DraganFly X6 On Display

■ Notice:

- Standard aviation navigation lighting
- Quiet
- Fast part replacement
- Camera payloads



Department Policy

6.255 – Use of Unmanned Aerial Systems (UAS)

Effective Date:

DATE

6.255 – POL

This policy applies to the use of unmanned aerial systems (UAS) by the Seattle Police Department.

1. Use of UAS Limited to Specific Circumstances

UAS will only be deployed in response to specific requests to deploy as listed below. UAS will not be used to provide random surveillance.

- UAS will only be used to gain an aerial perspective consistent with the open view doctrine.
- UAS may only be used to provide investigative support in the following circumstances:
 - Criminal investigations
 - Missing persons
 - Baricaded subjects
 - Hot pursuit of suspects
 - Hazardous materials spills
 - Natural disasters
 - Mutual aid for public safety missions
 - Specific situations with the direct authorization of the Assistant Chief of the Special Operations Bureau

Department Policy – cont.

2. Homeland Security has Operational Control

3. Homeland Security Supervisor Screens Deployment

A field supervisor will screen all requests to use UAS and a Homeland Security supervisor will screen all deployments. {See 6.255 –PRO – 1 (UAS Call-Out)}

- Deployment will be made consistent with the current *Seattle Police Department Unmanned Aerial System Operations Manual*.

4. Only Trained Officers will Operate UAS

Training will be administered by the Homeland Security Section.

5. UAS use will be Documented via Flight Logs

Homeland Security Section will be responsible for storing the UAS flight logs and training records.

AUVSI Code of Conduct



■ Safety

- Will not operate with undue risk
- Piloted by properly trained individuals

■ Professional

- Comply with all federal, state and local laws
- Will be responsive to the needs of the public

■ Respect

- Respect the rights of individuals
- Respect the concerns of the public
- Support involving public awareness

IACP Recommendations

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- Community Engagement
 - Engage their community
 - Provide opportunity for review and comment
 - System Requirements
 - Flight data
 - Discourage equipping with weapons
 - Operational Procedures
 - FAA Guidelines and department policy/procedures
 - Image Retention
 - Only as needed for evidence

References

- FAA Interim Operational Approval Guidance 08-01
- ACLU “Protecting Privacy for Aerial Surveillance” December, 2011
- AUVSI “Code of Conduct” July, 2012
- IACP “Recommended Guidelines for the use of Unmanned Aircraft” August, 2012
- FAA UAS Fact Sheet: http://www.faa.gov/about/initiatives/uas/uas_faq/