

# INTRODUCTION

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SkyWard Regulatory Services

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# AERIAL ROBOTICS USE CASES

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- Precision Agriculture (precisely identifying and reporting plant needs)
- Delivery of online orders within a matter of hours or minutes
- Deliver medicines to inaccessible places
- Swiftly find and rescue lost hikers or kids
- Fight forest fires without jeopardizing the lives of “hot shots”
- Environmental Surveys
- Oil, Gas, and other Infrastructure Inspections

## EXAMPLE VIDEOS

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Google Project Wing

<http://youtu.be/cRTNvWcx9Oo>



Amazon Prime Air

<http://youtu.be/98Blu9dpwHU>

## AR BRANDS

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- Blade - Nano QX - Toy
- Parrot - BeBop - Hobbyist
- 3DR X8/IRIS - Hobbyist
- DJI Phantom - Hobbyist
- DJI S800/S900/S1000 - Prosumer
- AscTec F8 - Prosumer
- Aeryon SkyRanger - Industrial/Military
- Aerovironment Puma - Industrial/Military



# AR PRICE POINTS

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\$70



\$1,300



\$10,000

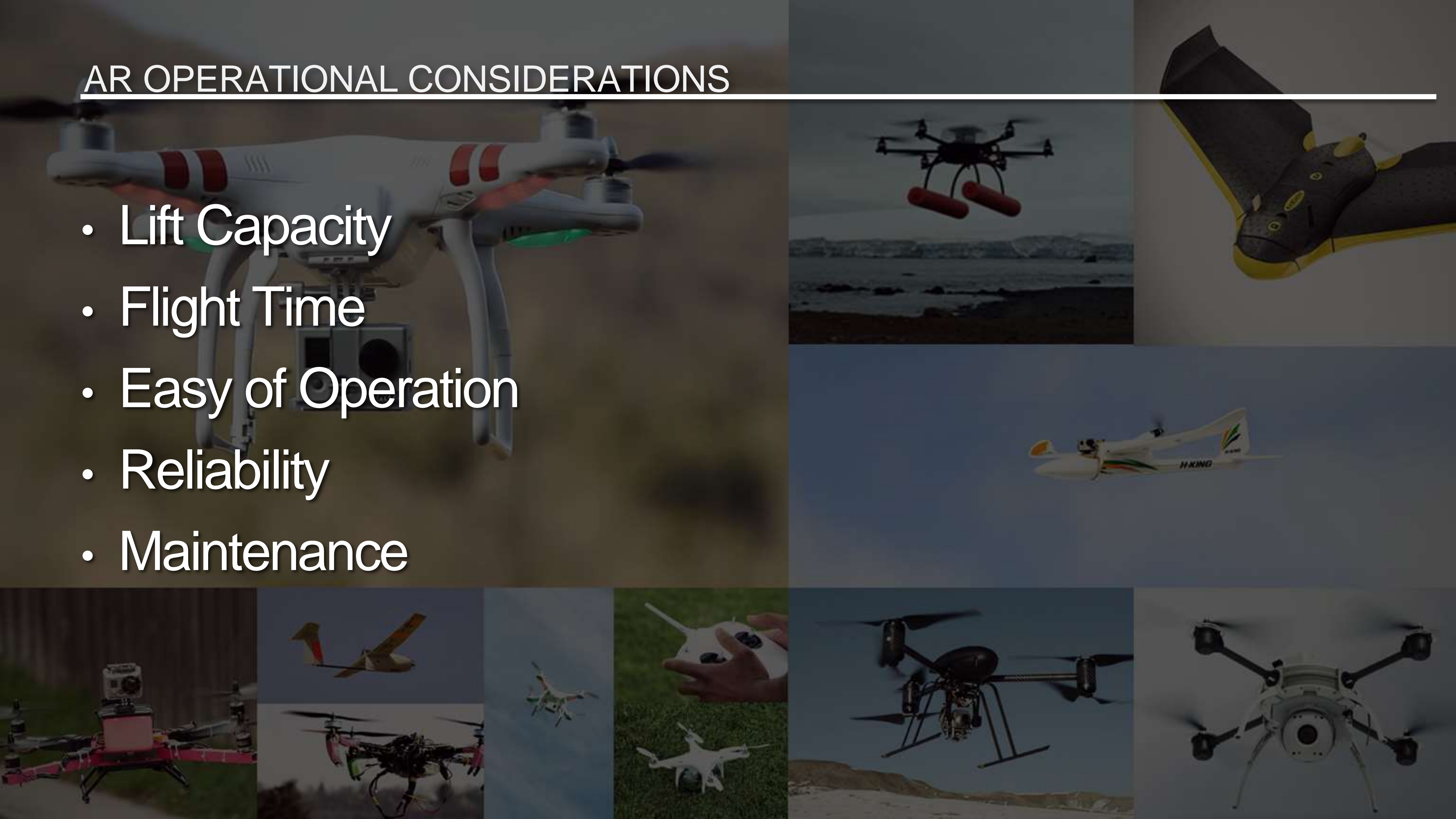


\$120,000



# AR OPERATIONAL CONSIDERATIONS

- Lift Capacity
- Flight Time
- Easy of Operation
- Reliability
- Maintenance



SIMULATED INSTRUMENT	GROUND TRAINER	TYPE OF PILOTING TIME			TOTAL DURATION OF FLIGHT
		DUAL RECEIVED	PILOT-IN-COMMAND	SECOND-IN-COMMAND	
			1	2	

## FEDERAL REGULATIONS & AGENCIES

- FAA - FARs, UAS Rule Making Roadmap
- DOI

SIMULATED INSTRUMENT	GROUND TRAINER	TYPE OF PILOTING TIME			TOTAL DURATION OF FLIGHT
		DUAL RECEIVED	PILOT-IN-COMMAND	SECOND-IN-COMMAND	
			1	2	

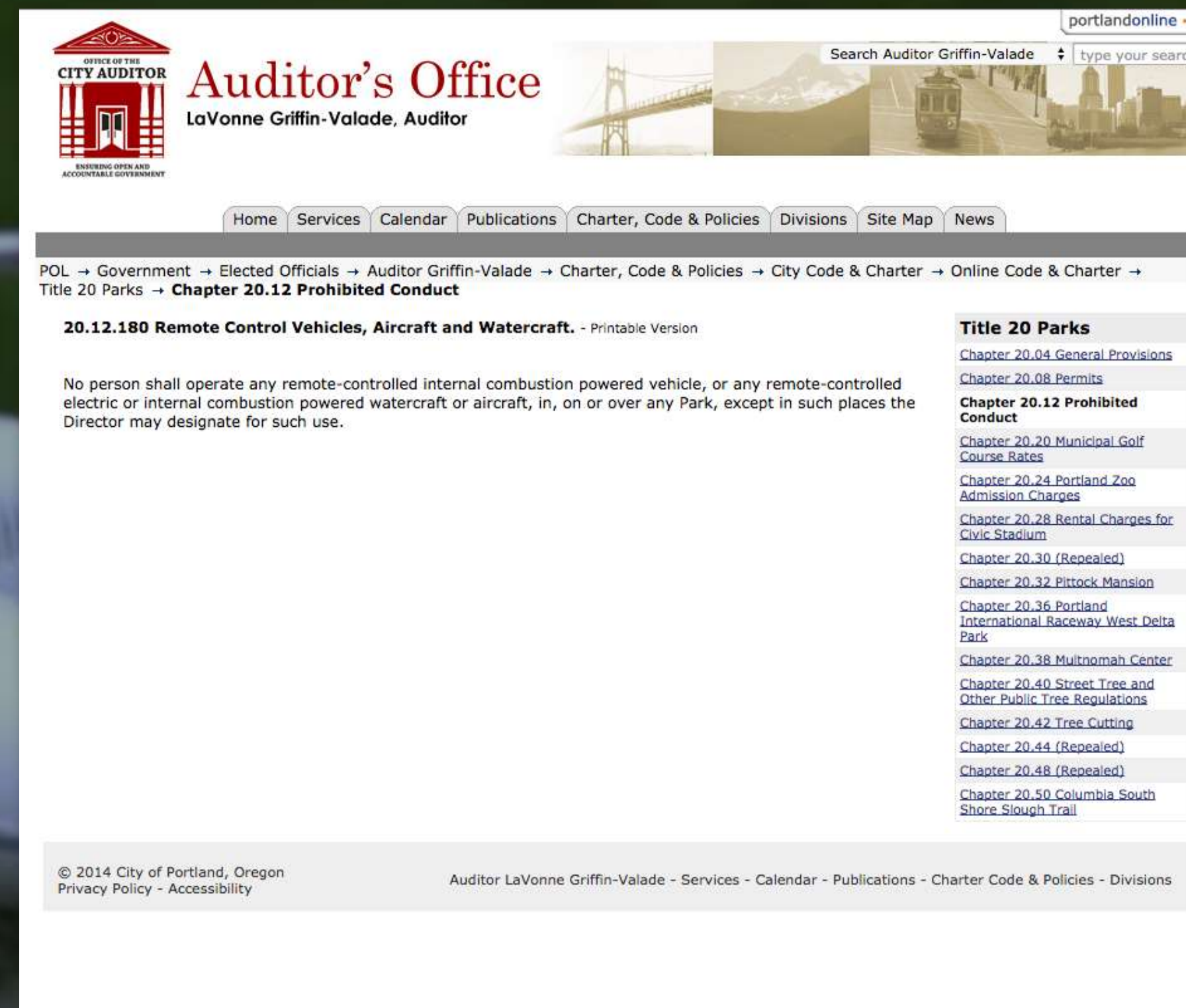
STATE LAWS AND REGULATORS

- Oregon Department of Aviation
- Local Flight Standards District Office
- Oregon HB2710



# CITY ORDINANCES

- City Ordinance: 20.12.180
- Delta Park



The screenshot shows the website of the Auditor's Office, LaVonne Griffin-Valade. The page is titled "Auditor's Office" and "LaVonne Griffin-Valade, Auditor". The main content area displays the ordinance "20.12.180 Remote Control Vehicles, Aircraft and Watercraft." with a "Printable Version" link. The text of the ordinance states: "No person shall operate any remote-controlled internal combustion powered vehicle, or any remote-controlled electric or internal combustion powered watercraft or aircraft, in, on or over any Park, except in such places the Director may designate for such use." A sidebar on the right lists various "Title 20 Parks" chapters, including "Chapter 20.12 Prohibited Conduct". The footer contains copyright information for the City of Portland, Oregon, and a list of navigation links.

OFFICE OF THE  
CITY AUDITOR  
ENSURING OPEN AND  
ACCOUNTABLE GOVERNMENT

**Auditor's Office**  
LaVonne Griffin-Valade, Auditor

Search Auditor Griffin-Valade type your search h

Home Services Calendar Publications Charter, Code & Policies Divisions Site Map News

POL → Government → Elected Officials → Auditor Griffin-Valade → Charter, Code & Policies → City Code & Charter → Online Code & Charter → Title 20 Parks → **Chapter 20.12 Prohibited Conduct**

**20.12.180 Remote Control Vehicles, Aircraft and Watercraft.** - Printable Version

No person shall operate any remote-controlled internal combustion powered vehicle, or any remote-controlled electric or internal combustion powered watercraft or aircraft, in, on or over any Park, except in such places the Director may designate for such use.

**Title 20 Parks**

- [Chapter 20.04 General Provisions](#)
- [Chapter 20.08 Permits](#)
- Chapter 20.12 Prohibited Conduct**
- [Chapter 20.20 Municipal Golf Course Rates](#)
- [Chapter 20.24 Portland Zoo Admission Charges](#)
- [Chapter 20.28 Rental Charges for Civic Stadium](#)
- [Chapter 20.30 \(Repealed\)](#)
- [Chapter 20.32 Pittock Mansion](#)
- [Chapter 20.36 Portland International Raceway West Delta Park](#)
- [Chapter 20.38 Multnomah Center](#)
- [Chapter 20.40 Street Tree and Other Public Tree Regulations](#)
- [Chapter 20.42 Tree Cutting](#)
- [Chapter 20.44 \(Repealed\)](#)
- [Chapter 20.48 \(Repealed\)](#)
- [Chapter 20.50 Columbia South Shore Slough Trail](#)

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Privacy Policy - Accessibility

Auditor LaVonne Griffin-Valade - Services - Calendar - Publications - Charter Code & Policies - Divisions

## LEARNING TO FLY

- Safety
- Risk Management
- Ground School
- Flying Lessons



UNITED STATES OF AMERICA

XI



DEPARTMENT OF TRANSPORTATION • FEDERAL AVIATION ADMINISTRATION

**CERTIFICATION**

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- Pilot License - FAA
- Radio License - FCC
- Safety Certification

VI NATIONALITY USA

SEX HEIGHT WEIGHT HAIR EYES

M 72 200 BROWN HAZEL

IX HAS BEEN FOUND TO BE PROPERLY QUALIFIED TO EXERCISE THE PRIVILEGES OF

II AIRLINE TRANSPORT PILOT

III CERTIFICATE NUMBER

X DATE OF ISSUE 4 DEC 2011

XIV

VII ACTING ADMINISTRATOR



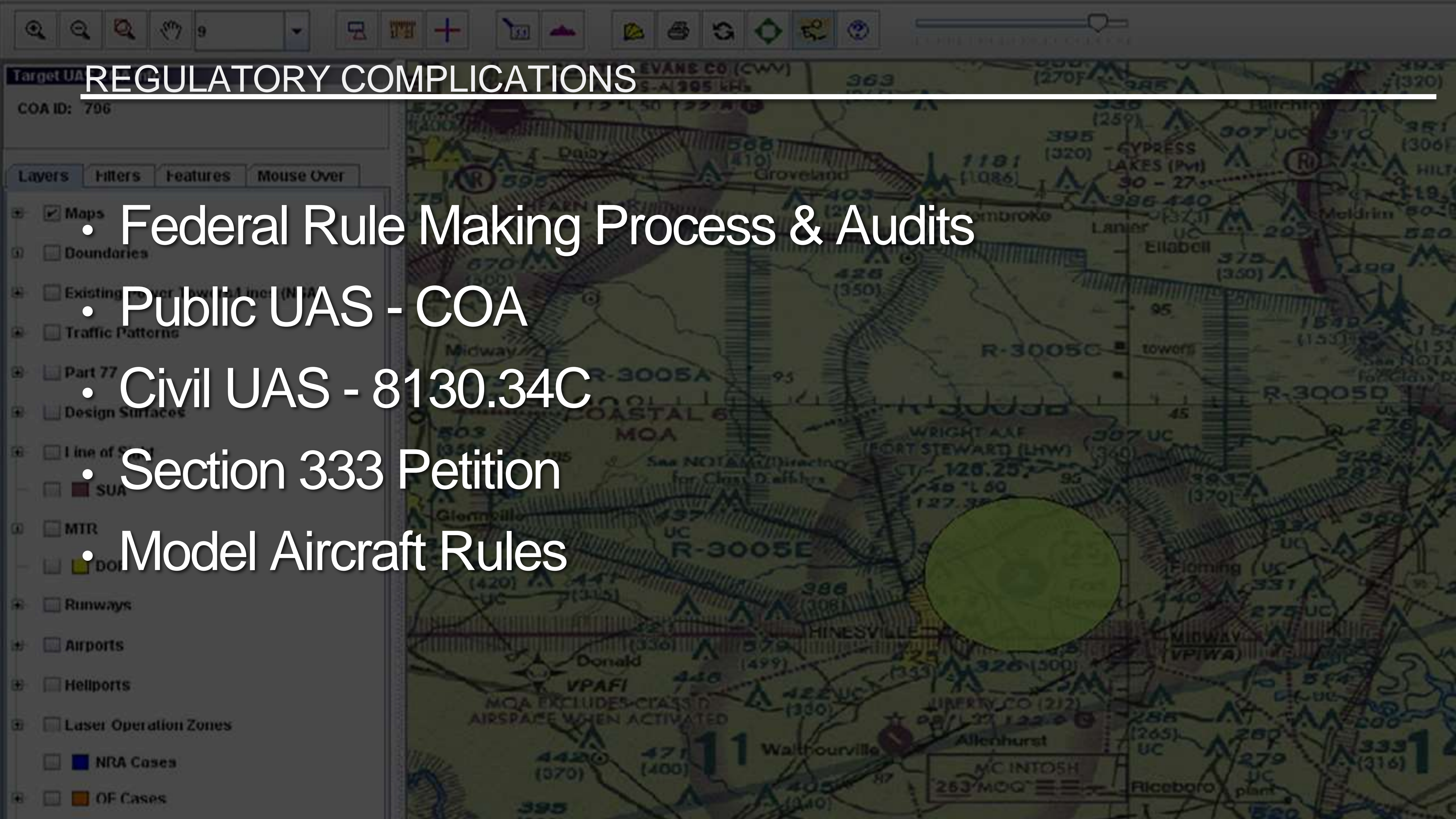
## GROUPS AND ORGANIZATIONS

- AMA
- RCAPA
- PDX Drones

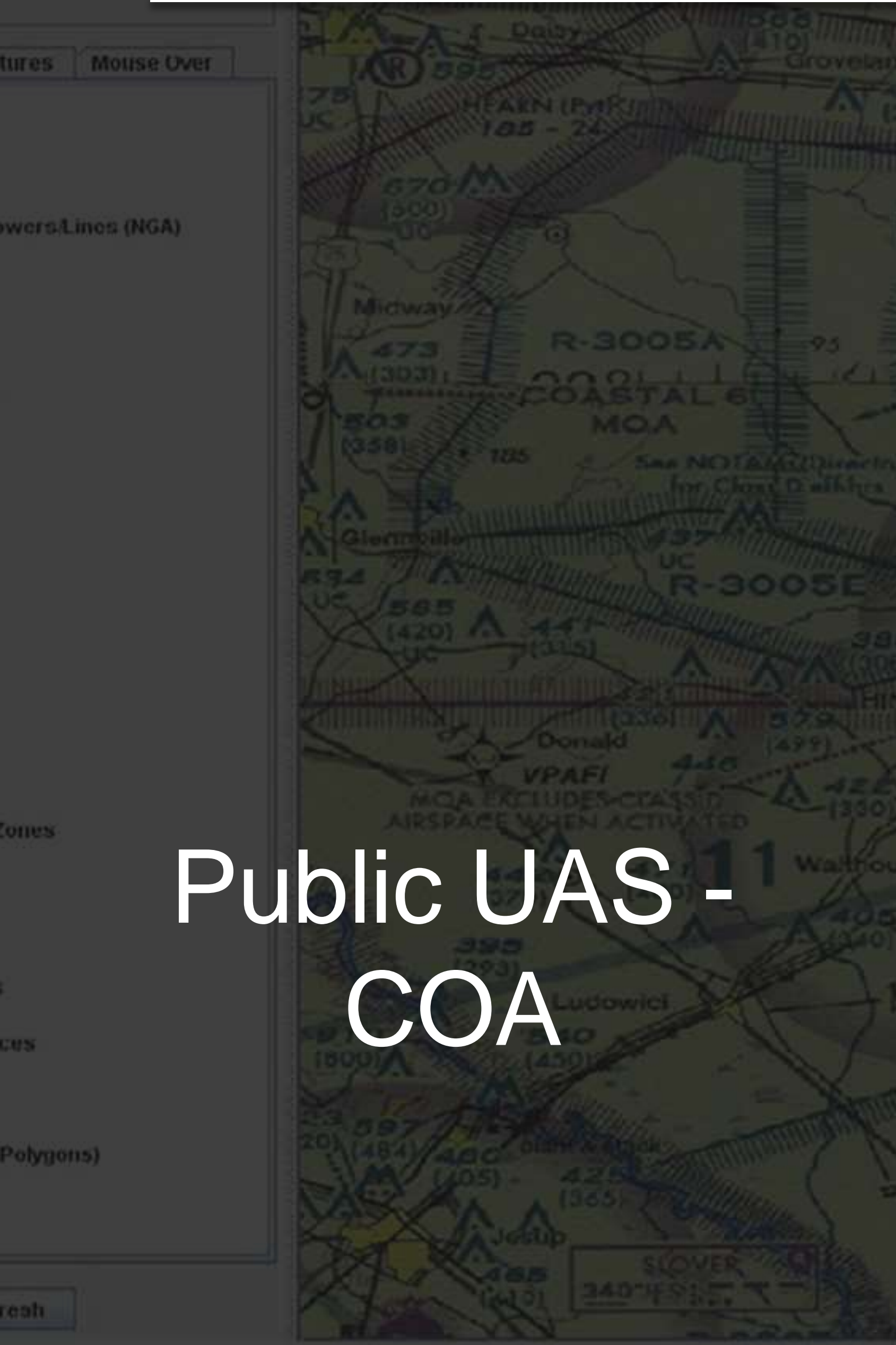


# REGULATORY COMPLICATIONS

- Federal Rule Making Process & Audits
- Public UAS - COA
- Civil UAS - 8130.34C
- Section 333 Petition
- Model Aircraft Rules



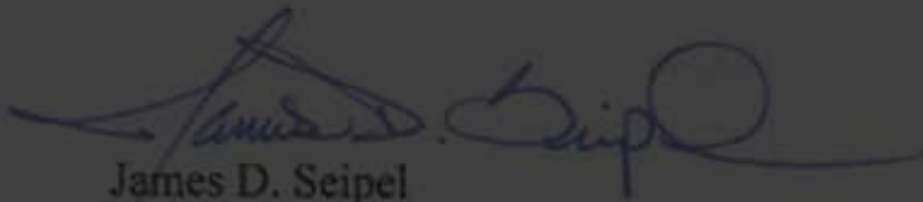
# REGULATORY COMPLICATIONS



U.S. DEPARTMENT OF TRANSPORTATION  
FEDERAL AVIATION ADMINISTRATION  
National Policy

**SUBJ:** Airworthiness Certification of Unmanned Aircraft Systems and Optionally Piloted Aircraft

This order establishes procedures for issuing special airworthiness certificates in the experimental category or special flight permits to unmanned aircraft systems (UAS), piloted aircraft (OPA), and aircraft intended to be flown as either a UAS or an OPA, designation "OPA/UAS." The procedures in this order apply to Federal Aviation Administration (FAA) manufacturing aviation safety inspectors (ASI), to FAA airworthiness ASIs, and private persons or organizations delegated authority to issue special flight permits for flight testing new production aircraft.

  
James D. Seipel  
Manager  
Production and Airworthiness Division, AIR-200

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regulations.gov  
Your Voice in Federal Decision-Making

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Document Type

Clear Filter

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- Other (44)
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Results per page: 50

PL 108-7, 108th Congress, Consolidated Resolution, 2003, Title IV of Division K for the Consolidated Appropriations Re

- Document Contents : ...the Federal Aviation Admin in FAA Advisory...and Senate Appropriations Comm agreement includes...

Supporting & Related Material by EPA on 04/07/2 ID: EPA-HQ-OAR-2004-0022-0182

Douglas Trudeau - Exemption/Rulema

- Attachment Contents : ...New Jersey Ave, SE Wash Request Section 333 of the FAA Reform Act of the C...

Other by FAA on 07/14/2014 ID: FAA-2014-0

Darling Geomatics - Exemption/Rulema

- Attachment Contents : ...Jersey Ave., SE Washing Request Under Section 333 of the FAA Reform Act Regulations...

Other by FAA on 07/14/2014 ID: FAA-2014-0

Advanced Aviation Solutions LLC - Exe

- Attachment Contents : ...Jersey Ave., SE Washing Request Under Section 333 of the FAA Reform Act Regulations...

Other by FAA on 07/24/2014 ID: FAA-2014-0

Modovolate Aviation, LLC - Exemption

- Attachment Contents : ...44701 and 44704 of Title give the FAA sufficient flexibility to address these ris

Other by FAA on 07/10/2014 ID: FAA-2014-0

Public UAS -  
COA

Civil UAS -  
8130.34C

Section 333  
Petition

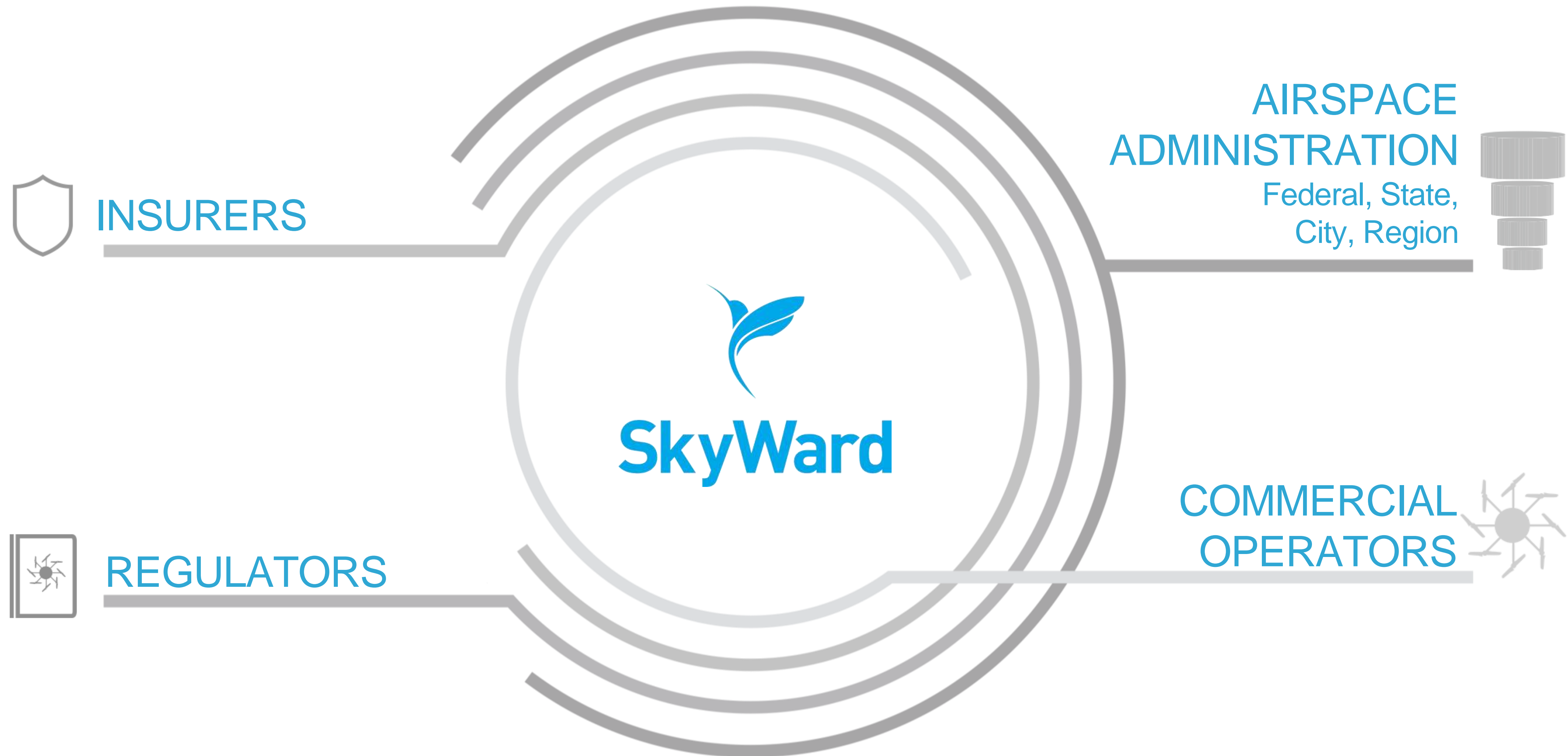
# INSURANCE

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- Insurance Providers
- Kinds of Insurance



# WHAT SKYWARD DOES





Thank  
you



**Andrew McCollough**  
SkyWard Regulatory Services  
andrew@skyward.io