

**AIA conference 2015,
Colorado Springs**

Insuring Unmanned Aircraft Systems

- James Van Meter, Allianz Global Corporate and Specialty
- Chris Proudlove, Global Aerospace
- Steve Teller, Aviation Light Services

**Overview
Underwriting UAS
Claims Management**



Panel Introduction

- James Van Meter
 - General Aviation Eastern Regional Coordinator and Practice Leader at Allianz Global Corporate & Specialty
 - Head of UAS for Allianz in the U.S.
- Chris Proudlove
 - SVP, Manager Northeast Regional and Complex Risk at Global Aerospace
 - Head of UAS for Global Aerospace in the U.S.
- Steve Teller
 - Account Executive & Executive Regional Manager at Aviation LS
 - Specialist claims adjuster for unmanned aircraft



Goals of the Presentation:

- Provide a brief overview of Unmanned Aircraft Systems, the UAS industry and current regulations
- Discuss insurance coverages available, underwriting challenges and claims handling
- Q&A session to answer audience questions



Intro to Unmanned Aircraft Systems

- UAS, UAV, RPA, Drone? Many names, but all refer to an aircraft that does not carry a human pilot on board.
 - Our discussion – Small UAS - Civilian aircraft that weigh less than 55 lbs - Phantom
 - 15 min/<3lbs/<\$1000



Intro to Unmanned Aircraft Systems

- Like many advancements in Aviation, UAS is rooted in military use and development.
 - First known use was in the mid 1800's - unmanned balloons.
 - Military technology allows for days of continuous flight and control from anywhere in the world



Intro to Unmanned Aircraft Systems

- Civilian Uses – Dull, Dirty, Dangerous and Delivery?
 - Roots in Hobby Aircraft / remote control community
 - Dozens of realized and unrealized uses including:
 - Aerial filming, news gathering, search & rescue, precision agriculture, infrastructure inspection, power line & pipe line patrol, insurance adjusting, fish spotting, crop dusting, delivery of supplies and medical devices, the list goes on.....



Intro to Unmanned Aircraft Systems

- UAS are featured daily in the news and on YouTube.
 - The technology is developing rapidly and the cost is no longer a barrier for entry. The vast majority of the general public can own.
 - The FAA estimates 30,000 small UAS will be used for commercial purposes by 2020. Hobbyist aircraft will number over 1,000,000
 - AUVSI estimates by 2025 the UAS industry will employ 100,000 and have an economic impact of \$82 billion

Intro to Unmanned Aircraft Systems

- Types of UAS Flying Today
 - Fixed wing, Rotor Wing, Quad Copters, Multi-copters
 - Power plant – Predominantly electric, but larger units gas powered
 - Most have automated take-off and landing sequences
 - GPS guidance, return to home, automated flight planning, geofencing
 - Controlled by RC type controller, tablet or laptop

Regulatory Overview - Today

- The FAA Classifications:
 - Model Aircraft / Hobby – AC 91-57 Applies
 - Commercial Operator - "For commercial benefit"
 - Presently FAA Modernization and Reform Act of 2012 (law 112-95) is applicable. Section 333
 - Public/Government Entity – Certificate of Authorization (COA)

Hobby and Recreation	Commercial Benefit or Business	Government or Public Entity
Follow Safety Guidelines for model aircraft FAA can enforce against "careless & reckless" ops	FAA Authorization needed via Section 333	Certificate of Authorization (COA) needed

Regulatory Overview - Today

- **Pilots and Aircraft**
 - No pilot certification standards or aircraft standards specific for UAS
 - Manned Aircraft rules apply – airworthiness certificate needed to operate in NAS or exception via COA or 333
- **Section 333 Exemption Process – The First Step**
 - The current path to legal commercial operations
 - 120 Days for exemption application review
 - As of 9 April 2015:
 - 99 exemptions granted for the following industries:
 - Motion picture, television filming, aerial photo, agriculture, construction, railroad, gas & energy, insurance, real estate, flare stack inspection, power line patrol and many more
 - 500+ petition for exemptions on file in processing



Regulatory Overview - The Near Future

- **Notice of Proposed Rulemaking (NPRM)**
 - Proposed Rules – Not the final rules
 - Proposed rules govern registration, airman certification and operation of civil **small** UAS within the U.S.
 - Comment period closed on April 24th.
 - After comment period – likely 1-2 yrs of rule making process before final rules
 - Creation of Part 107 in title 14 of the Code of Federal Regulations
 - Proposed rules do not apply to “model aircraft” or UAS operated for hobby/recreation
 - Micro UAS category proposed



Regulatory Overview - The Near Future

- **Part 107 Highlights**
- **Operations:**
 - UAS under 55 lbs - under 500 feet agl – under 87 knots
 - Visual line of sight – “see and avoid” / Daylight only / 3 miles visibility
 - No class A, but B,C,D and E with ATC permission. Class G allowed without ATC permission
- **Pilot / Operator:**
 - Aeronautical knowledge test
 - Small UAS rating / recurrent written test every 24 months
 - Accident Reporting to FAA for any BI or PD
- **Aircraft Requirements:**
 - No airworthiness cert required
 - All aircraft must be registered and display an N#
 - No insurance requirements for commercial UAV's



Regulatory Overview - Conclusion

- NPRM viewed by many as a positive step in the right direction
- The regulatory issues continue to be one of the biggest obstacles hindering the growth of the UAV industry
- Next is the Underwriters Perspective - presented by Chris Proudlove



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Part 2 – The underwriter’s perspective

- This is a new risk class with unique features
- Coverage and pricing yet to find any equilibrium
- Early pioneers will either prosper or falter



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Coverage available

- Physical Damage
 - Platform
 - Payload
 - Ground Equipment
- Liability
- War
- Personal Injury



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How do underwriter's categorize risks?

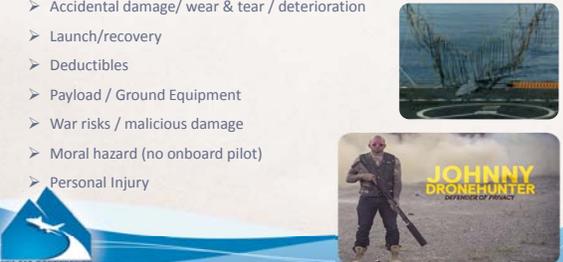
- Fixed vs. Rotor
- Visual Line of Sight / Line of Sight / Beyond Line of Sight
- Level of autonomy
- Means of launch and recovery
- Approved operation or certified aircraft?



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Unique and special risks associated with UAS

- Accidental damage/ wear & tear / deterioration
- Launch/recovery
- Deductibles
- Payload / Ground Equipment
- War risks / malicious damage
- Moral hazard (no onboard pilot)
- Personal Injury



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Underwriting Considerations



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The reality of the market today

- Scale, workload, revenue
- Constant changes
- Zero data
- Non-aviation customers
- P&C retail agents
- Claims



The Claims Perspective

- A Solution for what to do with all that pesky premium money



A New and Exciting Risk

Expanding Applications

- Still and Video Photography
- Agriculture and Ranching
- Search and Rescue
- Inspections
- Delivery



Rapidly Developing Technology and Industry

New

- Clients
- Markets
- Underwriters
- Claims professionals
- Experts
- Attorneys



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Even **the government** wants to help out....



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Factors Affecting Loss Frequency, Indemnity Payments and Recovery

- Operator sophistication, training, and experience
- Self-built, modified, and maintained equipment
- Foreign manufacturers



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Coverage Issue Examples

- Evolving policy language and conditions from existing aviation policies
- Non-named pilots if no open pilot warranty
- Insurable interest and newly acquired equipment



- **Illegal Acts**
Oops, my GPS malfunctioned.... My bad!



The Paparazzi goes aerial
Or.....Blackmail is better than no mail
at all...

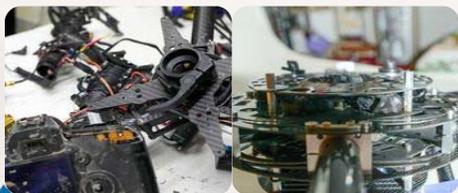


All claims require

- Prompt response and detailed investigation
- Onboard data capture recovery if available
- Forensic Photography
- An eye for evidence retention
– The manufacturer may not always be your friend...



Forensics





The only bad picture is the one you don't take.



Who'da Thought?

- The meltdown.
- Water everywhere and none to drink.
- Watch out for that antenna!
- It landed WHERE?
- I think I'm getting a headache.
- No Johnny, don't kick the nice mans cute (\$80,000) toy...



Hull Losses

- Most common loss cause is loss of control (fly-aways)
- UAV, gimbal and camera are usually total losses
- If repairable the Insured is often involved
- Nominal salvage recovery and marketing challenges
- Typical loss of evidence and inability to replicate loss hampers subrogation
- Betterment is usually not applicable



The Liability Claims Environment

- Low frequency but potential for high dollar exposure
- Exposure to the public and bystanders at events
- Privacy claims and trespassing damage



All people are not dronophiles



Entertainment Industry

- Exposure of risks to actors
- Fly-aways into frame
- Production schedules and revenue loss



The Law of Large Numbers as applies to UAVs



- BAD NEWS:

While there may be a large amount of claims initially...



Hey, GOOD NEWS! Practice makes perfect!