

The FAA rolls out its final small UAS rule for commercial operations:

The expected;
The pleasant surprises;
The known unknowns;
. . . and what's next

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Part 107 – what is it and where does it fit into the UAS regulatory framework?

- FAA final rule entitled *Operation and Certification of Small Unmanned Aircraft Systems*, 81 Fed.Reg. 42064 (June 28, 2016)
- **Part 107** is the part of the Federal Aviation Regulations (“FARs”) in which the bulk of the final rule is codified
 - Part 101 amended to include the Model Aircraft Special Rule
 - Other parts amended primarily exclude operations under Part 107 from these parts Small
- “Small” means 55 lbs, including payload
- “Certification” of UAS – not quite: only certification is of remote pilots, not the vehicle or platform, and not the commercial operator
- Effective August 29, 2016
- Part 107 is intended to obviate the bulk of section 333 exemptions (about 5,500 have been granted)

Part 107 – major categories – what was expected

- Vehicle – no (type, product, or) airworthiness certification
- Pilot – remote pilot certificate with small UAS rating
 - Significant plus: FAA required sec. 333 holders to use Part 61 certificated pilots, which meant manned aircraft flying school training; Part 107 requires passage of aeronautical knowledge test, and NO training (even though FAA recommends it)
- Commercial operator
 - No air carrier provision in Part 107
 - Preamble notes that intrastate package delivery is okay
- Operational limitations
 - Section 333 exemption conditions and limitations reappear as regulatory prohibitions and restrictions, albeit with several significant differences

Note that operational parameters compensate for absence of airworthiness certification

Part 107 expands scope of authorized operations – the pleasant surprises

- 400 ft AGL limit may be exceeded to conduct inspection or survey of a structure as much as 400 ft above the structure and 400 ft lateral distance.
- Intrastate package delivery (albeit within other operational parameters and no BVLOS operations)
- Operations in controlled airspace (B, C, D, and E) okay if authorized by ATC through web-based portal
- Operations in vicinity of an airport okay if no interference with operations or traffic patterns, subject to ATC authorization if in controlled airspace (see above) – no requirement to notify or obtain consent of airport operator
- Operations over people okay so long as they are not *directly* over a person
- **Waiver authority** upon safety finding (no requirement of public interest)
 - Operation from moving vehicle or aircraft (but no package delivery for comp or hire)
 - BVLOS operations (but no package delivery for comp or hire)
 - Operations at night
 - Operation of multiple UAS by a single remote pilot
 - Operation over people
 - Waiver of operating limitations: speed, minimum visibility, minimum distance from clouds, and 400 feet AGL (even as extended!)
 - Operation not yielding right of way to manned aircraft

Part 107 – the known unknowns

■ Aeronautical knowledge testing

- Training not required, but recommended; FAA assumes 20 hours of self-study – does the UAS community understand that?
- Will applicant be required to read sectional charts?
- FAA assumption of 10% failure rate – *wildly optimistic?*

■ Waiver process – will this be the section 333 process redux?

- Form on FAA website gives deceptive appearance of simplicity
- “Description of operations” box should include safety mitigations (what safety threshold – equivalent level” or “acceptable level”? What conditions will FAA include in waiver?)
- How long will FAA take? 120-day period for sec. 333 exemptions not met once long queue formed

■ ATC authorization for operations in controlled airspace– will this be the COA process redux?

- Same on-line form as for waivers
 - FAA asks that requests be made 90 days in advance – *is that practical?*
 - ATC facilities will receive approved authorizations, if granted, per “tentative” schedule:
 - Classes D & E – October 3, 2016
 - Class C – October 31, 2016
 - Class B – December 5, 2016
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What's left of section 333 after August 29?

- Current holders of sec. 333 exemption may continue to operate under that exemption until expiration date
- Pending petitions – FAA has notified those applicants whose petition suggests the applicant may operate under Part 107 without needing any additional authority that FAA will take no further action on the petition
- What about pending petitions seeking authority available by Part 107 waiver? FAA is treating these petitions as Part 107 waiver requests – **FAA granted 76 such waivers on August 29**
 - **72 of 76 for operations at night**
 - **Others for Pathfinder companies, for R&D (BVLOS, OOP)**
- FAA short-term extension (sec. 2210) authorizes BVLOS and nighttime operations in section 333 (yes, these operations may be also authorized in a Part 107 waiver)

FAA's focus is likely to shift away from section 333 and to Part 107 waivers

How does FAA short-term extension enacted July 15, 2016 impact Part 107?

- **Sec. 2204 – Assistance to firefighting and utility restoration**
 - FAA shall continue the expeditious authorization of UAS to assist firefighting (per agreement with Depts. of Interior & Agriculture) and utility restoration (per agreement with FEMA)
 - Independent from Part 107; direct final rule amendment?; subsumed in sec. 2207 below?
 - Will this include BVLOS, nighttime and operations over people?
- **Sec. 2207: Emergency authority to aid firefighting, utility restoration, & first responders**
 - By October 13, FAA shall publish guidance and procedures
 - “Exemption or certificate of authorization or waiver”, could be subsumed in Part 107 waiver
 - Allow BVLOS, nighttime operations and suspension of other restrictions
 - No notice and comment
- **Sec. 2209: Designation of critical facilities as off-limits for UAS operations**
 - DOT by Jan. 15, 2017 must set up process by which operators of certain fixed sites may petition FAA to prohibit or restrict UAS operations in close proximity
 - Fixed sites: critical infrastructure: oil & chemical facilities; amusement parks; other sites warranting protection
- **Sec. 2202: Industry consensus standards for remote identification of UAS**
 - Report to Congress by July 15, 2017 on progress
 - By July 15, 2018, FAA to issue regulations or guidance based on any standards developed
 - Will become critical for UTM

What's on the horizon? – more known unknowns

■ Operations over people (OOP) NPRM – expected December 2016

- Outgrowth from misnamed Micro UAS ARC
- Industry to provide performance standards?
- CNN Pathfinder Project experience/data?
- FAA projects final rule end of summer 2017

■ UTM Pilot Program – sec. 2208

- 6 months – Jan. 15, 2017: UTM research plan to Congress
- Not later than 90 days thereafter, FAA shall establish pilot program (no particulars specified)
- Pilot program must conclude within 2 years of establishment (around April 2019)
- What is expected from NASA-FAA Research Transition Team (RTT) ?
- Tulsa-PrecisionHawk agreement

■ Drone Advisory Committee (DAC)

- First meeting Sept. 16
- To recommend priorities to FAA Administrator

■ FAA-Industry Unmanned Aircraft Safety Team (UAST)

- Analyze safety data
- Develop strategies

■ Online aeronautical knowledge testing

- Technology is available now to ensure integrity and protect against cheating
- FAA opened the door and should conduct a pilot project now

What's on the horizon – Congress to engage once again

- FAA reauthorization – FAA authorities expire Sept. 30, 2017
- Drone and other key provisions left out of short-term extension to use as leverage for moving FAA reauthorization bill in next Congress
- House T&I Committee marked-up bill (H.R. 4441)
 - Air carrier certification process (by amendment)
 - Micro UAS authority – self-executing (by amendment) – *overtaken by events?*
- Senate-passed bill (H.R. 636)
 - UTM implementation, with direction, but no implementation schedule (sec. 2138)
 - Spectrum – placeholder (sec. 2153)
 - Air carrier certification process (sec. 2141)
 - Preemption of state and local laws (sec. 2152)
 - Development of industry consensus standards (sec. 2124)
- Presidential candidates: silent, for now

Threats to progress

- Slow pace of FAA rulemaking
 - Serial approach may delay BVLOS and sense & avoid rules
- Is technology mature, reliable? Does FAA has sufficient data?
- UTM implementation, without further congressional direction, may founder
 - Who runs it: FAA or industry?
 - Who pays for it?
 - What's so important about UTM?
- State and local regulation
 - FAA implied preemption has not deterred state and local governments
 - Reluctance of DOT/FAA to take action: Fact Sheet good as far as it goes
 - Development of case law could take many years
 - Senate FAA reauthorization bill preemption provision opposed by state and local lobbying groups

Questions?

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