

Tools

Liberalizing Drone Flights – FAA Part 107

AirGon News



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New regulations for commercial small unmanned aerial systems (sUAS or “drones”) will take effect in the United States on August 27, 2016. These new rules, referred to as Part 107, contain a real gem that not many folks are discussing. In fact, I think it may be the most important rule of the entire Part 107.

First of all, a very, very big caveat!! I am not a lawyer nor a pilot so take everything in this article with a big grain of salt. I am not responsible for misinterpreting Part 107 and I won't come visit you in jail! After all, if you have read it cover to cover (as I have) you will realize it is not the easiest document to summarize!

Our subsidiary company, AirGon LLC, has an FAA 333 exemption to commercially fly sUAS. We have spent tens of thousands of dollars on private pilot training for our field service technicians over the past year. While the requirements for piloting an sUAS are greatly simplified in Part 107, they are not quite as simple as was presented in the original FAA Notice of Proposed Rule Making (NPRM). The term Pilot in Command (PIC) remains (a new classification called Remote Pilot) and the testing (for those who do not already have an FAA airman's certificate) cannot be done online. Still, this is considerably less expensive and less nonsensical than the current 333 rules.

Some interesting liberalizations beyond the NPRM have occurred. The major ones of interest are:

- No Visual Observer (VO) is required. This is a huge savings for sites where a VO is really unnecessary.
- Clarification that a drone momentarily becoming non-visible, because it flew behind a stockpile, is not a violation of the Visual Line of Site (VLOS) rules. In fact, Part 107 has many common sense statements that should be greatly appreciated.
- There are no reporting requirements except for “serious” (which is well defined in the Part 107) accidents. Real kudos here to the FAA for cutting the bureaucracy.
- There are no requirements to file a Notice to Airmen (NOTAM).
- I am a little unclear on this one, but I think 107 allows “relaying” so long as the relinquishing and receiving PICs have simultaneous VLOS of the sUAS at the time of hand-over. Both PICs must be licensed Remote Pilots.
- You can operate from a moving land (or water) vehicle so long as you are not carrying packages for hire (this is a really odd restriction that seems to stem from commerce concerns).
- You can operate during twilight hours so long as you have proper lighting. Lighting is not required in daylight hours.
- First Person View (FPV) is permitted so long as you are within VLOS of the sUAS (this is a pretty big deal).
- We only get a ceiling of 400 feet rather than the really desired 500 feet. However, there is some liberalization of this for structures that is really important.

While we are restricted to a flying height at or below 400 feet, this is no longer strictly Above Ground Level (AGL). The new rule is basically to draw a surface 400 feet around all permanent structures

(including the ground). You can fly within this envelope. This is a really big deal. It says you can inspect an entire 800 foot antenna so long as you remain within 400’ of the tower. This allows you to fly up to 1,200 feet AGL (for this example) so long as you are not laterally more than 400 feet from the tower. I leave it as an exercise to the reader to determine if you can penetrate a controlled airspace under this rule (e.g. can you poke up into Class E airspace if you remain within 400’ of a tower?)

For folks like us, who do small site precision mapping for the mining and construction industry, I have saved the best for last. You can fly in any class G airspace without any approvals and without filing a NOTAM. This is huge!! Under the current 333 standard Certificate of Authorization (COA), you must be at least the following distances from airports, regardless of the class of airspace:

- 5 nautical miles (NM) from an airport with a control tower
- 3 NM from an airport with no tower but a published instrument flight procedure
- 2 NM from all other airports

Everyone has seen the presentations that show the dreaded wide, faded magenta circles on sectional charts that represent air fields in the USA. It is hard to throw a stone without encountering one of these (see Figure 1). An amazing number of surface mining and construction sites fall within these Section 333 prohibited zones.

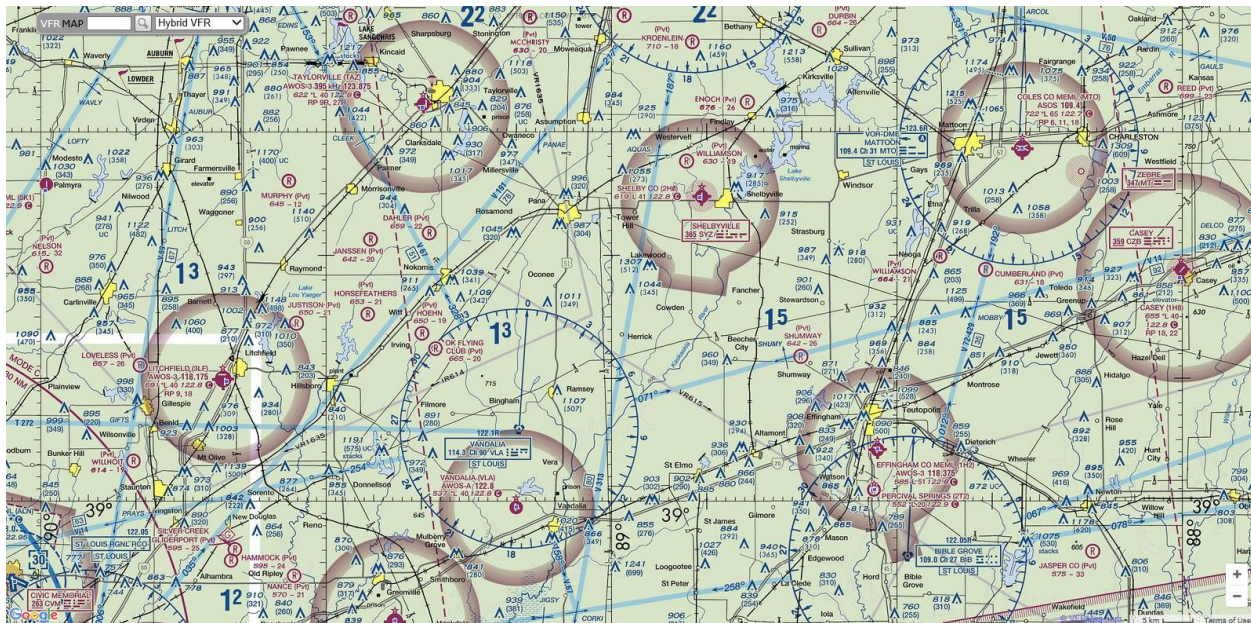


Figure 1: Typical density of airports

Under 107, you can operate anywhere in class G airspace (subject to the 400’ envelope previously mentioned and all other requirements) with no additional authorizations required! The vast majority of small airports in the USA are in class G uncontrolled airspace from the surface to 700 feet (where the class goes to E). Make sure you know how to read a sectional but basically any wide, faded magenta circle that does not contain a dashed circle is class G airspace from the surface to 700’. For example, our pilots are trained at Madison Executive Airport (MDQ). A quick look at the sectional shows that MDQ is

class G airspace. This means that you can fly an sUAS within any proximity to MDQ. Of course you must always follow all rules of the 107, always yield right of way to manned aircraft and not interfere with airport traffic patterns.

To show you how big a deal this is, consider the mine site at Charlevoix, Michigan shown in Figure 2. This site literally wraps around 3 sides of the regional airport. This would require a letter of agreement with the airport and a COA to fly under the current Section 333 rules.



Figure 2: Mine site in Charlevoix, MI

A look at the sectional chart for Charlevoix (Figure 3) reveals that this airport is class G airspace. This means this mine site can be flown under part 107 with no additional paperwork or permissions. I think you can see that this is a game changer with respect to sUAS flying ability in the USA.

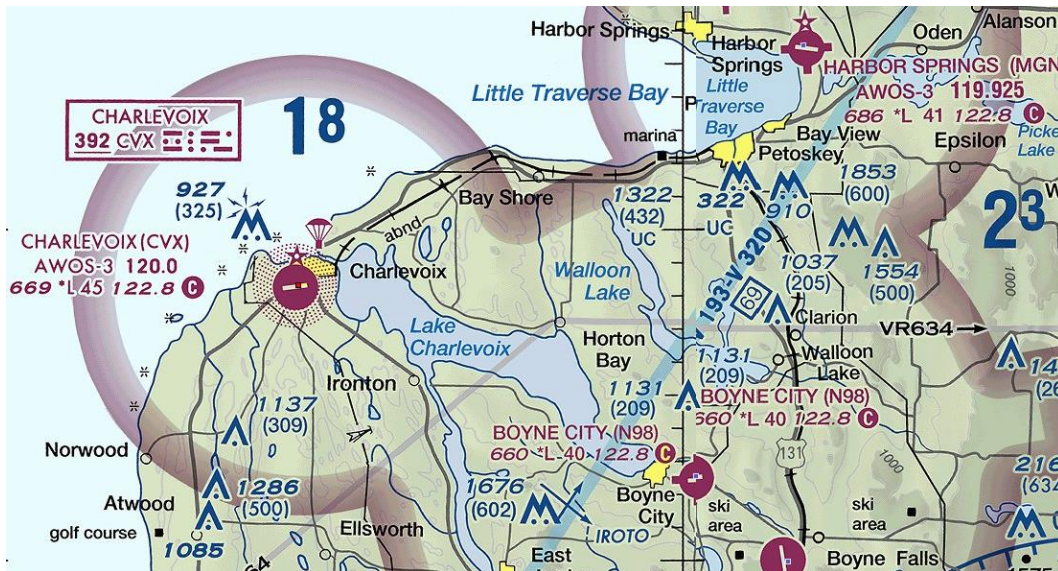


Figure 3: Sectional of Charlevoix airport

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Again, be very careful in assuring you know how to read sectional charts! Airports encircled by faded magenta that incorporate a dashed magenta line are in Class E airspace within the dashed line area (see Figure 4). You cannot fly in any class other than G without explicit permission from Air Traffic Control (the COA process seems to be disappearing).

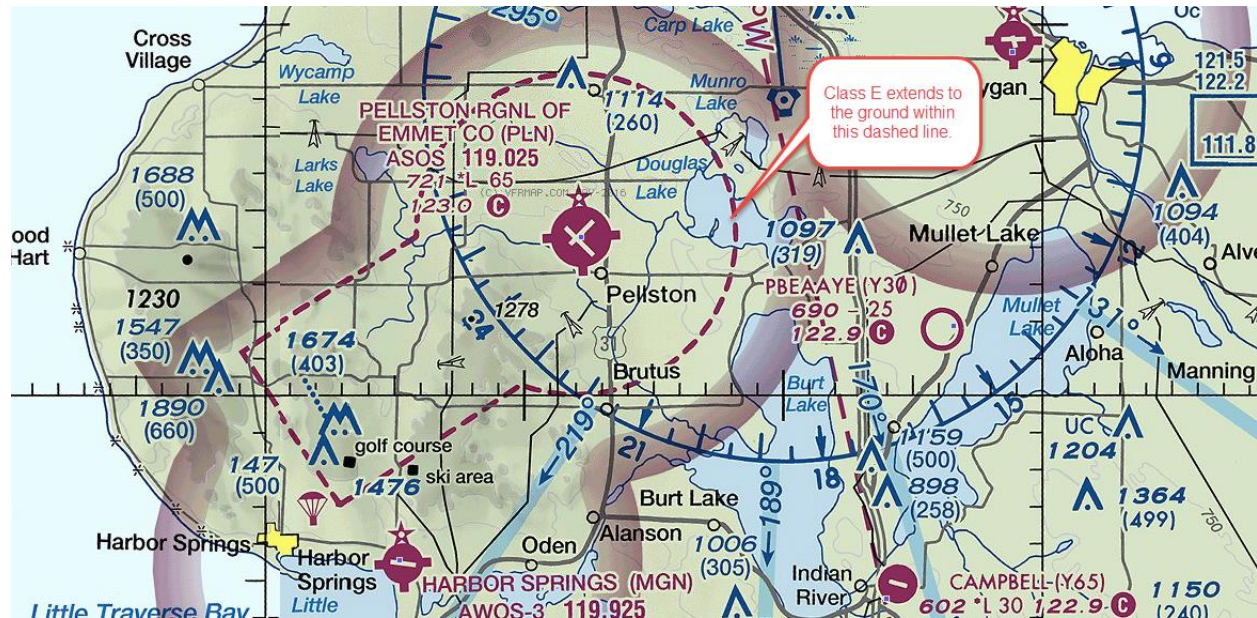


Figure 4: Class E extends to the ground within the dashed magenta line

Of course, being a good neighbor in our sUAS industry is going to be key to our overall future success. I would always attempt to cooperate with an airport if I were flying in close proximity!

I am excited about the Part 107. It tremendously expands where we can fly while also vastly simplifying the paperwork process. Please only use the information in this article to guide you in questioning experts; do not take this as gospel! We have been given a tremendous amount of responsibility by the FAA. I hope we all fly very pragmatically and safely with the highest of respect for those in our flight zones! As your Mom would say, always be mindful of your manners!