

**14 CFR § 107.31 (Visual Line of Sight Aircraft Operation)**

This application is for operating a drone using FPV Goggles for situational awareness without the use of a visual observer. As there is no visual observer, there is no communication latency between VO and RPIC.

Operations will occur within Class G airspace below forest canopy on access controlled private property. Operations will occur only under a completely enclosed forest canopy. The forest canopy must extend 250 feet beyond the operational area in all directions.

The operations described occur in a situation where there is minimal to no air or ground risk. There is little to no air risk as a critical malfunction that results in a "fly away" in the vertical direction will result in impacting tree canopy that will prevent the drone from entering airspace where traditional aviation operates. Fly aways in the horizontal direction will result in impacts with trees. A further ground buffer of 250 feet will increase the chance of hitting an obstruction even higher thereby decreasing risk to any non-participating individuals.

RPIC will conduct a walkthrough of the proposed operations area during daylight hours to scout potential hazards and obstacles. As the operational area will be fenced, upon private property, not open to the public there will be no hazard to the public. If members of the public are seen in the operational area, drone operations will be immediately ceased. The police will be called and trespassers will be arrested, removed, and issued a notice of trespass.

The RPIC will be using FPV goggles for situational awareness to continuously know and determine the position, altitude, and movement of the drone. As the operational area consists of flying below the forest canopy, altitude becomes irrelevant as the sole limiting operational factor is staying below the forest canopy. The FPV goggles also provide data such as drone battery consumed, drone battery voltage, FPV battery voltage, and FPV signal strength. As the camera is pointed in the direction of travel, RPIC will use the feed to see and avoid. Telemetry data provides information as to degraded drone function. RPIC will attempt to return to take off point in case of malfunction but this step is not required. The

nature of a FPV drone is such that impacts with the ground and or trees in such an environment is expected and is not abnormal.

RPIC will not need to sense and avoid traditional aircraft as any aircraft flying under a forest canopy will have bigger issues than a drone. Thus increasing visual conspicuity to 3SM is not required as the operational area is restricted to areas that traditional aviation may not fly.

If there is a loss of FPV feed, RPIC will immediately decrease throttle to ground the aircraft. As the public is not permitted in the operational area, there is minimal to no risk to non-participating individuals. A loss of communication between the ground station and sUAS will result in a preprogrammed behavior of decreasing throttle to ensure that the drone lands near where the signal was lost.

The FPV drone is also limited in battery power. Batteries that will be used are less than 1500mAh with flight times less than 5 minutes thereby limiting range. Further,

Prior to each flight, the RPIC will go through the pre-flight checklist that includes:

A visual inspection of the sUAS and components, and ensuring adequate battery levels.

Ensuring that all RPICs operating at the same time are on different FPV channels before attempting flight.

This waiver and all safety procedures will be kept in a separate policy and procedures manual and will be kept up to date by the RPIC and RP. It will be kept on site in either electronic or paper form for each operation performed under this waiver.

RPIC will mark trees in the operational boundary with fluorescent tape to denote the operational boundary. Just as traditional aircraft pilots use visual markers, the tape will be utilized by the RPIC for such purposes.

There are no other participating individuals in this operation. However, responsible party will be maintaining a list of pilots approved to operate under this waiver. All approved pilots will receive a briefing on the contents and restrictions of this waiver.

PROPOSED LOCATION OF OPERATION

Operations will occur within Class G airspace below forest canopy on access controlled private property. Operations will occur only under a completely enclosed forest canopy. The forest canopy must extend 250 feet beyond the operational area in all directions.

PROPOSED MAXIMUM FLIGHT ALTITUDE ABOVE GROUND LEVEL (AGL)

50 ft.