

Submitted by: Ralph J. Apel
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Scope: Enhance the academic community awareness and augment real estate listing videos by using the Phantom Vision+ Unmanned Aircraft System to conduct aerial photography and videography of real property.

Request: An exemption from 91.7(a), 91.119, 91.121, 91.151(a), 91.405(a), 91.407(a)(1), 91.409(a)(2) and 91.417(a) and (b) of Title 14, Code of Federal Regulations (14 CFR) as was granted to Douglas Trudeau, Realtor® in Exemption No. 11138.

Petition: The following documents are included with the Petition:

Phantom Flying Flow Chart v1.0
Phantom Quick Start Manual v1.7
Phantom Advanced Manual v1.4,3
Phantom 2 Vision+ User manual (Safety / Flight Manual)
Kansas City VFR sectional map with anticipated operating area
Personal protocols and controls

I request an exemption from §§ 91.405(a), 91.407(a)(1), 91.409(a)(2) and 91.417(a) and (b) Maintenance Inspections since they only apply to aircraft with an airworthiness certificate. I will, however, perform a preflight inspection of my UAS before each flight as outlined in the operating documents.

UAS Pilot in Command (PIC)

The Pilot in Command of my UAS will hold a Commercial Pilot's license, a third class medical certificate, and will have many hours of practice and, when one is available, attend the Phantom Pilot Training Course offered by the manufacturer.

UAS Operating Parameters

I request exemption from § 91.151. The Pilot in Command will abide by the following personal protocols and controls:

- Pilot in Command will only operate in reasonably safe environments that are strictly controlled, are away from power lines, elevated lights and airports. Pilot in Command will conduct extensive preflight inspections and protocols, during which safety carries primary importance;
- Operate the UAS below 300 feet and within a radius distance of 1000 feet from the controller while maintaining direct line of sight visual observation (VLOS);
- Land the UAS prior to the manufacturer's recommended minimum level of battery power;
- Use the UAS' GPS flight safety feature whereby the aircraft hovers and then slowly lands if communication with the remote control pilot is lost;
- Pilot in Command will conduct all operations under my own personal and flight safety protocols (including posting a warning sign reading: "Attention: Aerial Photography in Progress - Remain Back 150 feet") contained in the operating documents and will actively analyze flight data and other sources of information to constantly update and enhance my safety protocols;
- Contact respective airports and/or Flight Standard District Offices if operations will be within 5 miles to advise them of my estimated flight time, flight duration, elevation of flight and other pertinent information;
- I will always obtain all necessary permissions prior to operation; and
- Have procedures in place to abort flights in the event of safety breaches or potential danger.

§91.7(a) prohibits the operation of an aircraft without an airworthiness certificate. I assert that since there is currently no certificate applicable to my operation, this regulation is inapplicable.

§91.119 prescribes safe altitudes for the operation of civil aircraft, but it allows helicopters to be operated at lower altitudes in certain conditions. Pilot In Command will not operate the UAS above the altitude of 300 feet above ground level (AGL) and will also only operate in safe areas away from the public and traffic, thus "providing a level of safety at least equivalent to or below those in relation to minimum safe altitudes." Given the size, weight, maneuverability and speed of my UAS, an equivalent or higher level of safety will be achieved.

§91.121 Altimeter Settings is inapplicable since my UAS utilizes electronic GPS with a barometer sensor.

Public Interest

Aerial videography for geographical awareness and for real estate marketing has been around for a long time through manned fixed wing aircraft and helicopters, but for small business owners, it's expense has been cost-prohibitive. Granting this exemption to me would allow me to provide this service at a much lower cost. My UAS will pose no threat to the public given its small size and lack of combustible fuel when compared to manned aircraft. The operation of my UAS will minimize ecological damage and promote economic growth by providing information to companies looking to relocate or build in the Kansas City metro area.