

**BEFORE THE
DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION
WASHINGTON, D.C.**

IN THE MATTER OF

Petition of Wing Aviation LLC for Exemption

Docket No. FAA-2018-0835

COMMENTS OF THE SMALL UAV COALITION

**Gregory S. Walden
McGuireWoods Consulting, LLC
2001 K Street NW, 4th floor
Washington, DC 20006
*Counsel to the Small UAV Coalition***

October 18, 2018

Filed with www.regulations.gov

**BEFORE THE
DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION
WASHINGTON, D.C.**

IN THE MATTER OF

Petition of Wing Aviation LLC for Exemption

Docket No. FAA-2018-0835

COMMENTS OF THE SMALL UAV COALITION

The Small UAV Coalition¹ is pleased to provide its comments in support of the petition by Wing Aviation LLC (“Wing”) for an exemption from multiple provisions of Parts 135, 119, 91, and 43 to conduct package delivery for compensation or hire, initially as part of the Virginia Innovation and Entrepreneurship Investment Authority – a participant in the FAA’s UAS Integrated Pilot Program (“IPP”) – in the Blacksburg and Roanoke areas in Virginia. Wing will operate the Hummingbird V2, which is less than 12 lbs. and is capable of carrying packages up to 3.3 lbs.

Members of the Small UAV Coalition share an interest in advancing regulatory and policy changes that will permit the operation of UAS in the near-term within and beyond the line of sight, with varying degrees of autonomy, for commercial and other civil purposes. In particular, the Coalition has long advocated for a UAS air carrier rule that would provide a performance-based certification process tailored to the different risk profile of small drones. In section 348 of the recently enacted FAA Reauthorization Act of 2018, Congress directed the FAA within one year to update its rules to authorize the carriage of property by small UAS operators for compensation or hire. This rulemaking shall, inter alia,

- (1) Use performance-based requirements.
- (2) Consider varying levels of risk to other aircraft and to persons and property on the ground . . . and tailor performance-based requirements to appropriately mitigate risk.
- (3) Consider the unique characteristics of highly automated, small unmanned aircraft systems.

49 U.S.C. §44808(b).

¹ Members of the Small UAV Coalition may be found on the Coalition’s website: www.smalluavcoalition.org

The Coalition believes that Wing's petition will significantly assist the FAA in developing a UAS air carrier rule consistent with the congressional directions. The Coalition expects the comprehensive and thorough rule-by-rule analysis undertaken by Wing in its petition will allow the FAA to develop a rule that will obviate such petitions in the future. Wing has reviewed over 200 regulatory provisions, seeking an exemption from 86 requirements. It also notes that for 87 requirements, Wing does not require an exemption, and it does not request exemption relief for 46 other requirements.

In the near-term, granting this petition is necessary to allow Wing to conduct package delivery for compensation or hire as part of the UAS IPP, because under Part 107, FAA does not permit a beyond visual line of sight ("BVLOS") waiver for commercial package delivery.

Wing also notes that it is seeking type and airworthiness certification for the Hummingbird V2. Section 345 of the FAA Reauthorization Act of requires the FAA to establish a process for "accepting risk-based consensus safety standards related to the design, production and modification of small unmanned aircraft systems." Subsection 345(e) provides that such a process may obviate type and airworthiness certification. The Coalition is aware that several other UAS companies are going through the existing type, production, and airworthiness certification process, and believes that the experience from these pending matters should inform the development of consensus safety standards.

Accordingly, the Coalition strongly supports granting Wing's petition in full.

The Coalition provides these comments particularly to endorse the extensive risk analysis in Wing's petition. In demonstrating that Wing's operation will achieve the equivalent level of safety as that provided in the rules from which Wings seeks an exemption, Wing states (Petition at 8):

The proposed UAS operations will improve safety and reduce risk by reducing the public's exposure to the greater dangers associated with operations of significantly larger, heavier and faster fixed-wing aircraft that are fuel-powered, or the even greater danger created by automotive transport. The sUA covered by this exemption are lightweight and battery powered, have no on-board crew and create no toxic emissions. An accident or incident involving Wing's sUA, constructed largely of foam and weighing roughly 11 pounds, can even be attenuated by small trees and presents significantly less risk to other individuals and structures on the ground than one involving a fuel-powered fixed-wing aircraft that can weigh hundreds of thousands of pounds, or accidents involving other multi-thousand pound ground vehicles and pedestrians.

Wing outlines its risk-assessment process in its petition. Wing has designed its UAS to a "total acceptable risk value of $<1.8e-8$ events per flight," a risk level that Wings asserts is "far lower than that posed by other aircraft and is selected to match the lowest (2014 NHTSA) third-party risk posed by automobiles." Wing's process is similar to the Specific Operations Risk Assessment ("SORA") process developed by the Joint Authorities for Rulemaking for Unmanned Systems ("JARUS"), in that "UAS risk is based on the probability of critical failure and considering exposed persons in an overflown area." Petition at 9.

Wing has confidentially submitted impact testing data to the FAA that demonstrates its operations can meet or exceed the target level of safety for population densities up to 111,000 people [per square mile].” Wing states that for less dense suburban areas (6,000 to 12,000 people per square mile), “the level of safety is 10-20 times better than pedestrian safety and 2 orders of magnitude better than existing Part 135 operations!” Petition, at 10.

Wing’s approach is to compare the risk of UAS operations with the risk of Part 135 operations of manned aircraft, including helicopter operations, and risk of ground vehicles. The Coalition submits that this approach should be the FAA’s touchstone not only in evaluating this petition, but also in developing UAS air carrier certification requirements, as well as UAS type, production, and airworthiness certification requirements.

This approach is recommended in a recent Consensus Study Report, commissioned by the National Academies of Sciences, Engineering and Medicine at the FAA’s request in 2017, *Assessing the Risks of Unmanned Aircraft Systems into the National Airspace System*. Among its recommendations is that FAA should conduct a holistic consideration of safety benefits (at 34).

The FAA should expand its perspective on a *quantitative* risk assessment to look more holistically at the total safety risk. Safety benefits, including those outside of aviation (e.g., the benefit of cell tower inspections without a human climbing a cell tower), should be part of the equation. UAS operations should be allowed if they decrease safety risks in society – even if they introduce new aviation safety risks – so long as they result in a net reduction in total safety risk.

These are particularly important to develop and replace the traditional airworthiness criteria in Parts 23, 27, and elsewhere in the Federal Aviation Regulations that drive heavier and more structurally robust designs to accommodate the passengers and crew occupants. These standards can enable small, lightweight aircraft with inherently safer UA designs such as Wing’s design described in section V of its petition.

As the Coalition endorses Wing’s approach to risk assessment, the Coalition similarly supports this recommendation in the Consensus Study Report.

Among the safety features in Wing’s operation, Wing’s UAS includes a ADS-B receiver (ADS-B In) to detect and yield the right-of-way to ADS-S equipped manned aircraft. Until all manned aircraft in controlled airspace are required to be equipped with ADS-B In (2020), Wing will limit operations to defined low altitude (typically transiting at 65-110 feet AGL) and lower-risk airspace. Wing also engages in outreach to all parts of the local aviation industry to apprise other operators of Wing’s flights. Each Wing flight has a predetermined and deconflicted flight path and is fully automated, although a pilot in command can take control of the drone if necessary.

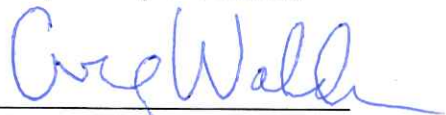
With respect to Wing’s request for exemption from certain Part 61, Part 91, and Part 135 requirements relating to pilot certification, the Coalition believes that obtaining a remote pilot certificate under Part 107 with small UAS rating should be sufficient. The Coalition has previously urged the FAA to accept a Part 107 remote pilot certificate in lieu of a Part 61 airman certificate for an operation under section 333, including an operation under Part 137. The FAA recently

adopted this position, *see* Exemption No. 17936 to DroneSeed Co., FAA-2017-1157 (Aug. 13, 2018), and the Coalition urges the FAA to grant Wing's exemption on the same basis.

Accordingly, the Coalition supports Wing's petition for exemption in full.

p

Respectfully submitted,



Gregory S. Walden
McGuifeWoods Consulting, LLC
2001 K Street NW, 4th floor
Washington, DC 20006
202-872-2928
gwalden@mwellc.com
Counsel to the Small UAV Coalition

October 18, 2018