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

IN THE MATTER OF

Noise Certification Standards: Matternet Model M2 Aircraft

Notice of proposed rulemaking, rule of particular applicability

Docket No. FAA-2021-0710

COMMENTS OF THE SMALL UAV COALITION

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The Small UAV Coalition ("Coalition")[1] is pleased to comment on the proposed noise certification standards for the Matternet Model M2 aircraft, in the above captioned notice of proposed rulemaking ("NPRM"). 86 Fed. Reg. 48281 (Aug. 27, 2021). Notwithstanding the statement in the Notice that these standards particularly apply to the Matternet Model M2 aircraft, this Notice seeks public comment that will inform the FAA's adoption of noise certification standards for other drone models. The Coalition's comments below therefore are intended for this general purpose.

At the outset, the Coalition agrees in part with the FAA's statement that "it is possible that these aircraft generate less noise than was contemplated when Part 36 was promulgated." 86 Fed. Reg. at 48281. Any person comparing the noise from a small drone such as the Matternet Model M2 with the noise of a small helicopter --- weighing not more than 7,000 lbs. -- would readily conclude that the former generates much less noise than the latter, weighing 25 lbs. in this case. Part 36 was established in 1969 (and subpart J in 1992), at a time when no commercial drone was being manufactured, much less operational. Thus, we believe it is certain that small drones generate less noise than what the FAA contemplated when adopting Part 36.

Indeed, in most activities, a drone will have a much small noise footprint and fewer noise impacts than the methods by which these activities are currently performed. When drones are used in place of trucks or piloted aircraft, a reduction in overall noise exposure should be expected. Beyond the overall reduction in noise, the transition to electric-powered drones from other modes of transportation that rely on combustion engines will benefit the environment by reducing CO2 greenhouse gas emissions. Reducing the number of trucks on roadways will also alleviate traffic congestion and improve highway safety. In some uses cases, such as infrastructure inspections, drones are operates over closed- and restricted-access sits with significant ambient noise, drowning out any drone noise. In framing a general approach to UAS noise, including noise certification standards, the Coalition urges the FAA to account for the reduce noise impact in various

[1] Members of the Small UAV Coalition are listed at www.smallauvcoalition.org

operational environments, including industrial infrastructure inspections, particularly over closed- or limited-access sites, and in very dense urban environments.

The Coalition questions the purpose of including, in these proposed standards, a supplemental test, which Matternet voluntary agreed to conduct, and which the FAA states is not part of the type or airworthiness certification process and will not be evaluated against any noise limits or regulatory criteria for noise certification purposes. The FAA states that data from this hovering test will "inform the larger database of noise experience with UA." The Notice does not explain the purpose of this test, if not for noise certification standards purposes. The Coalition believes that any "voluntary" test should not be an element in setting a noise certification basis. The Coalition also requests clarification of this or any other supplemental test the FAA intends to include in the Noise Certification Basis, as the supplemental hovering test is paragraph (16) in the "noise certification requirements." 86 Fed. Reg. at 48282, 48286.

The Coalition agrees in principle that the 492 ft AGL flyover testing distance in Appendix J (small helicopters) should be adjusted for small drones, and does not question the 250 ft AGL flyover testing distance for the Matternet Model M2 aircraft. We agree with the FAA's view that the noise from a drone may be lost to ambient noise at 492 ft AGL. We add that the noise from a small drone, even at 250 feet, may well be lost to ambient noise, especially in urban environments.

In developing noise certification standards and regulations, 49 U.S.C. 44715(b)(4) requires that they be economically reasonable, technologically practicable, and appropriate for the applicable aircraft. The Coalition believes a noise certification standard or rule is appropriate if it is based on testing and evaluation of the real operational environment of a small drone, considering its light weight and slow speed vis-à-vis piloted aircraft, as well as its different acoustic features and impacts. We are concerned, however, that the test procedures proposed for Matternet may be unnecessarily complex, and therefore costly – "economically unreasonable" – for many smaller drone manufacturers, given the current lack of noise concerns about small drones in the NAS, from any quarter.

The Coalition does not challenge the FAA's statement that the "expected operational environment" of small drones will generally be closer to persons on the ground than traditional helicopter operations, as the former are required under Part 107 generally to be operated under 400 ft Above Ground Level ("AGL,") while the latter are generally required by 14 C.F.R. 91.119 to operate above 500 feet AGL (and 1,000 ft AGL above an open air assembly of persons). However, helicopters often do not take off and land at airports, where the FAA recognizes that certain property serves as "a primary buffer from the general population[,]" but heliports, parking lots, and open fields where the distance to persons is roughly comparable to drone operations.

The Coalition supports the use of rules of particular applicability in the absence of sufficient data to adopt a rule of general applicability, such as Part 36.. We urge the FAA to move quickly in this rulemaking and also to proceed expeditiously, in parallel, in proposing noise certification standards for the other type certification applicants, as well as to develop a new subpart of Part 36 for small drones, to enable the industry to deliver the public benefits of scaled drone operations.

Respectfully submitted,

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