

**Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, DC 20554**

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|---------------------------------------------------|---|----------------------|
| In the Matter of |) | |
| |) | |
| Amendment of the Commission's Rules to |) | WT Docket No. 19-140 |
| Promote Aviation Safety |) | |
| |) | |
| WiMAX Forum Petition to Adopt Service Rules |) | RM-11793 |
| for the Aeronautical Mobile Airport |) | |
| Communications System (AeroMACS) |) | |
| |) | |
| Petition of Sierra Nevada Corporation for |) | RM-11799 |
| Amendment of the Commission's Rules to Allow |) | |
| for Enhanced Flight Vision System Radar under |) | |
| Part 87 |) | |
| |) | |
| Petition of Aviation Spectrum Resources, Inc. for |) | RM-11818 |
| Amendment of Sections 87.173(b) and 87.263(a) |) | |
| of the FCC's Rules to Allow Use of the Lower |) | |
| 136 MHz Band by Aeronautical Enroute Stations |) | |
| |) | |
| Petition of Airports Council International-North |) | RM-11832 |
| America Regarding Aeronautical Utility Mobile |) | |
| Stations |) | |

REPLY COMMENTS OF THE COMMERCIAL DRONE ALLIANCE

The Commercial Drone Alliance (“CDA” or “the Alliance”) appreciates the opportunity to submit these reply comments in response to the Federal Communications Commission’s (“FCC” or “Commission”) Notice of Proposed Rulemaking (“NPRM”), which seeks to promote aviation safety.¹ While the NPRM does not directly seek comment on how the proposed rules might affect the unmanned aircraft system (“UAS”) industry, the Alliance believes that the FCC will inevitably play a critical role in facilitating the continued safe growth of the U.S.

¹ See *Amendment of the Commission's Rules to Promote Aviation Safety, et al.*, WT Docket No. 19-140, RM-11793, RM-11799, RM-11818, and RM-11832, Notice of Proposed Rulemaking, FCC 19-53 (rel. June 7, 2019) (“NPRM”).

commercial drone industry. Key technologies that are essential to achieving full integration of UAS into the National Airspace System (“NAS”) will rely on spectrum, and therefore the FCC’s rules will play an integral part in enabling expanded UAS operations that will allow the American public to realize the full safety, efficiency, and countless other public benefits that commercial UAS operations can provide. The Alliance urges the FCC to continue its work with other federal agencies and the private sector to facilitate the safe development and integration of UAS into the NAS.

I. ABOUT THE COMMERCIAL DRONE ALLIANCE

The Alliance is an independent non-profit organization led by key members of the commercial drone industry. The Alliance brings together commercial drone end-users, manufacturers, service providers, urban air mobility (“UAM”) companies, and vertical markets including oil and gas, precision agriculture, construction, security, communications technology, infrastructure, newsgathering, filmmaking, and more. The Alliance works with policymakers at all levels of government to craft policies for industry growth and seeks to educate the public on the safe and responsible use of commercial drones to achieve economic benefits and humanitarian gains.²

II. THE FCC WILL PLAY A CRITICAL ROLE IN THE SAFE INTEGRATION OF UAS INTO THE NAS

The benefits of commercial UAS operations are substantial. Technology has advanced rapidly, and UAS are now powerful commercial tools that dramatically improve safety and efficiency. For example, UAS can: (1) inspect and monitor industrial equipment, wind turbines, communications towers, parked aircraft and runways, energy facilities, railroad tracks, bridges,

² For more information on the Commercial Drone Alliance, see www.commercialdronealliance.org.

power lines, pipelines, and other critical infrastructure; (2) assist with law enforcement, fire, accident, and natural disaster responses, and crop assessments, as well as search and rescue missions and newsgathering; and (3) deliver supplies, products, life-saving medical equipment, and medicines, among countless other beneficial use cases. Like small UAS, large UAS have tremendous potential to safely and cost-effectively conduct operations with significant public benefits – from public safety and natural disaster assessments to precision agriculture, mapping and so much more. And, in the near future, UAM and large vertical-take-off-and-landing (“VTOL”) aircraft will enable on-demand, highly automated travel for passengers or cargo for short distances around metropolitan or urban areas, and in doing so, revolutionize daily travel and commutes. While the benefits of all these new and innovative commercial UAS uses are endless, many of the more advanced operations will require FCC licensing and approvals.

Today, most commercial UAS use unlicensed spectrum bands for command and control. While the use of unlicensed spectrum is sufficient for a wide range of operations conducted today, it may be desirable to use licensed spectrum for expanded operations in suburban and urban areas, including flights over people, in controlled airspace, and beyond pilot visual line of sight. The need for licensed spectrum may also extend to other functions for UAS operations, including remote identification and tracking (“remote ID”), aircraft detect and avoid (“DAA”) collision avoidance technologies, vehicle-to-vehicle communications, and payload communications. Spectrum may also play a vital role in enabling Unmanned Traffic Management (“UTM”), which will be a key component of airspace structure, management, and coordination as more UAS operate in the NAS. UTM will enable certain expanded commercial UAS operations and the scalability of such operations while also enhancing safety. Given the

essential role of spectrum for UAS operations, it is critical that the FCC take tangible steps that are necessary to enable the future's most promising commercial UAS uses.

III. STEPS THE FCC CAN TAKE NOW TO ENABLE UAS INTEGRATION

The Alliance appreciates the work the FCC is doing now with stakeholders to enable the safe integration of UAS into the NAS. However, there are additional steps that the FCC can take now, in coordination with relevant stakeholders, to help streamline UAS integration.

A. Provide Spectrum Report to Congress

We are pleased that Congress required the FCC, Federal Aviation Administration (“FAA”), and National Telecommunications and Information Administration (“NTIA”) to draft a thorough spectrum report³ that is of paramount importance for the UAS and UAM community. The Alliance looks forward to reading the report as it will provide very helpful guidance to the UAS and UAM industry.

B. Coordinate with the FAA to Enable the Use of FCC Experimental Licenses in UAS Operations

The FCC grants Special Temporary Authority (“STA”) or experimental licenses in a limited number of circumstances, including for temporary testing and for market trials, for short periods of time.⁴ The FAA recently adopted a policy of prohibiting the use of FCC experimental authorizations for operations conducted under a Part 107 waiver.⁵ By way of background, the

³ FAA Reauthorization Act of 2018, Pub. L. 115-254, § 374 (2018) (requiring submission of a report to relevant Congressional subcommittees “[n]ot later than 270 days after the enactment of this Act”).

⁴ See 47 C.F.R. §§ 1.931(b)(2) (describing special temporary authority for private wireless services), 5.61 (describing special temporary authorizations for market trials).

⁵ See, e.g., U.S. Department of Transportation, Federal Aviation Administration, Certificate of Waiver No. 107W-2019-04403, at 7 (Aug. 15, 2019) (stating in Provision Number 33 that an

waiver process under Part 107 of the Federal Aviation Regulations provides a means for operators to conduct expanded operations beyond the scope of Part 107, such as flights over people, beyond line of sight, and at night, when it is safe to do so. As such, these waivers are essential to conducting expanded operations in the near-term prior to future FAA rulemaking. There are many UAS operations that can be conducted safely using an FCC experimental authorization. Accordingly, the FCC should engage with the FAA to assess the FAA's rationale for restricting the use of experimental authorizations and assist the FAA in defining criteria for the safe use of experimental authorizations in the context of Part 107 waived operations.

C. The FCC Should Clarify That the Definition of EFVS Also Includes UAS Ground Stations

The FCC seeks comment on its proposed definition for Enhanced Flight Vision System ("EFVS"),⁶ which would match the FAA's definition.⁷ While consistent use of definitions across agencies is typically desired, that is not the case here. The FAA's definition of EFVS in Section 1.1 of the Federal Aviation Regulations is outdated, as it was promulgated before Congress's mandate to integrate UAS into the NAS. The FAA's definition and, by extension, the FCC's proposed definition should be revised to clarify that EFVS may include UAS ground station displays (i.e., displays not installed on an aircraft). EFVS technology on ground control station displays can provide UAS pilots on the ground with the same type of important flight information combined with real-time sensor imaging that a heads up display located on a manned

"FCC experimental authorization may not be used for sUAS operations under this waiver"); *see also* 47 C.F.R. §§ 5.1 *et seq.* (providing the Commission's rules for the Experimental Radio Service).

⁶ *See* NPRM ¶ 13.

⁷ *See id.* n. 24 ("We propose to adopt the FAA definition [of EFVS]."); *see also* 14 C.F.R. § 1.1 (providing the FAA definition).

aircraft provides. This clarification would minimize stakeholder confusion and help future-proof the definition to account for rapid developments in UAS technology and policy.

D. The FCC Should Limit Exemptions from ADS-B Data Transmission Requirements

In the NPRM, the FCC notes that “the FAA is considering whether . . . to exempt certain government aircraft from the requirement to transmit ADS-B data at all times” and seeks comment on whether it “need[s] to take any action to implement exceptions adopted by the FAA for national security and law enforcement activities.”⁸ While the CDA recognizes the critical importance of national security and law enforcement activities, these priorities should be balanced with Congress’ mandate to safely integrate UAS into the NAS.

ADS-B, like remote ID technologies in the UAS context, improves flight safety. Remote ID rulemaking is a gating item for future rulemaking necessary to enable routine expanded UAS operations. Moreover, remote ID and the transmission of ADS-B data are essential building blocks to developing a UTM system that will enable UAS and traditional aircraft to safely co-exist in the NAS, including in more complex and crowded airspace. UTM efforts will be more successful if there are more NAS users participating in the UTM system. The FCC should work closely with the FAA to ensure that all NAS users can electronically transmit positioning data to manned and unmanned air traffic management systems (even if anonymity for security reasons is required). For this reason, the FCC should limit exemptions to ADS-B requirements.

⁸ NPRM ¶ 24.

IV. CONCLUSION

The FCC's rules will play a vital role in enabling expanded UAS operations that will allow the American public to realize the full safety, efficiency, and economic benefits that commercial UAS operations can provide. The Alliance urges the FCC to continue working closely with other federal agencies and industry stakeholders to facilitate the continued safe integration of UAS into the NAS. The Alliance looks forward to working with all federal agency stakeholders including the FCC to continue integration of UAS into the NAS in a timely way.

Respectfully Submitted,

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