

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

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**IN THE MATTER OF**

**Petition of Bowhead Mission Solutions, LLC for Exemption**

**Docket Number: FAA-2014-0916**

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**COMMENTS OF THE SMALL UAV COALITION**

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The Small UAV Coalition<sup>1</sup> is pleased to provide its comments in support of the petition submitted by Bowhead Mission Solutions, LLC (“Bowhead”) for an exemption to permit Bowhead to operate its Cinestar 8 Okto XL small unmanned aircraft system (“sUAS”) over the playing field of Sam Boyd Stadium during University of Nevada Las Vegas football games, and thus over persons not involved in the sUAS operation, as well as closer than 500 feet to such persons. We assume that Bowhead contemplates nighttime operations as well, to cover games played at night.

Members of the Small UAV Coalition share an interest in advancing regulatory and policy changes that will permit the operation of small UAVs in the near term, within and beyond the line of sight, with varying degrees of autonomy, for commercial, consumer, recreational and philanthropic purposes. We applaud the Federal Aviation Administration (“FAA”) for accelerating the pace of exemptions. The Coalition believes there are additional steps the FAA can take to broaden the authority to conduct commercial operations. In particular, the FAA has the authority and the discretion to permit small UAS operations over a sporting event under the circumstances proposed in this petition, and should grant this petition in consideration of the many safety precautions Bowhead will put in place to ensure safety of persons on the ground as well as pose no risk to manned aircraft operations in the vicinity.

Among the safety measures Bowhead has adopted to ensure the safety of these operations, the Coalition notes that Bowhead’s sUAS operation will be both below the top rim of the stadium

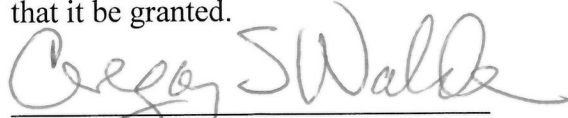
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<sup>1</sup> Members of the Small UAV Coalition include 3D Robotics, AirMap, AGI, Amazon Prime Air, Botlink, DJI Innovations, Drone Deploy, Flirtey, Google[x] Project Wing, GoPro, Intel, Kespry, Parrot, PrecisionHawk, Strat-Aero, Verizon Ventures, and Zero Tech.

and over only the playing field and not over the stands. Thus, these operations will be segregated both horizontally and vertically from any potential conflicting air traffic. Bowhead will use two pilots to maintain proper situational awareness and four observers who each will be trained to address any abnormal situation. Bowhead will conduct dry-runs testing and simulated emergency situations, including a simulated modeling program before each game day. Bowhead states that the sUAS has “redundancy in every conceivable area: thrust, communications, and electrical power for both the aircraft itself and the supporting system. . . . Pre-plotted waypoints within the stadium using GIS coordinates and auto-pilot ‘fly to’ commands provide extremely precise navigation.” The sUAS will be powered by two batteries and will not be operated over the playing field beyond 68% of the battery power.

Bowhead has also conducted a risk assessment as part of the Safety Management System (“SMS”) it will employ. The Coalition believes an SMS provides an additional layer of safety for the benefit of persons on the ground, both the teams and others on the field and spectators in the stands.

Accordingly, the Small UAV Coalition strongly supports Bowhead’s petition and recommends that it be granted.



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