8/21/15
RE: **GAO-15-610**
Dear Mr. Dillingham,

My personal experience in the U.S. airspace integration effort spans more than ten years. This includes membership on the FAA's sUAS ARC and involvement with the standards groups ASTM and RTCA. Based on this experience, I can say that I do not share some of the assessments espoused in the podcast and the GAO report (GAO-15-610). The first paragraph cites a 2013 industry economic report. Doing so calls GAO due diligence into question as the "report" is widely recognized as being flawed.

The September 2015 Congressional integration mandate is almost here and many believe that the Sec. 333 exemption scheme and low number of granted exemptions is hard to accept as progress. Current estimates have the number of consumer drones sold at north of 650,000 units. If you deduct the hobbyists at 180,000, plus AMA members and the 1,257 section 333 exemptions, that still leaves a huge number of aircraft and end-users unaccounted for. Statistically speaking, there are a very low number of substantiated incidents involving UAS. If we are to indulge in more conjecture, are we to assume that these several hundred thousand pro/consumers are operating safely?

London, England has some of the busiest airspace in the world yet in 2013 the CAA UK allowed a swarm of sUAS (30+) to be safely flown at night over the Tower Bridge. Yes, the UK has less land mass and fewer people, but they also have a fraction of the FAA's annual operating budget.

The FAA has been well aware of the fact that tens of thousands of commercial and UAS have flown in the NAS for many years,9 and turning a blind eye to this hardly makes the NAS safer. Many airspace integration stakeholders are starting to wonder if the FAA has the political will or technical know how to safely integrate UAS into the NAS in what a fair minded person would call a timely manner. The FAA assertions about busy airspace and safest airspace system have validity, however, the data referenced for GA safety, methodology of collection and overall accuracy have been called into question by the GAO and NTSB.[1] There are doubts that the NAS GA safety data collection (GAATA survey etc.) may not meet the rigors of the scientific method.

What are we to conclude after spending 23 years of UAS NAS integration? One solid conclusion is that we still have an effort based primarily on conjecture. Very little in the way of scientific data exists and much of the integration (or lack thereof) has been based on stakeholder's comfort levels and feelings. How can we determine the risk or have a meaningful conversation about the "safety" or "risk" to the NAS based solely on feelings and conjecture? It will remain an ongoing and open debate until the FAA or someone else conducts kinetic energy studies to determine risk to other aircraft in the NAS and people on the ground. Furthermore, we need to employ the scientific method to determine the visual acuity of the human eye. When we have done this we can establish a credible baseline for see and avoid and then start to develop mechanical and software solution for detect and avoid.

On behalf of the Remote Control Aerial Platform Association membership, Patrick Egan

*Attached is an integration timeline diagram produced by the sUAS News highlighting some of the 23-year history of U.S. UAS airspace integration process.

[1] Current Procedures for Collecting and Reporting U.S. General Aviation Accident and Activity Data. Safety Report NTSB/SR-05/02 PB2005-917002 Notation 7573A