AMA D1 NPRM TECH & SAFETY COMMENTS

My name is Andy Argenio and I am writing today not as an Academy of Model Aeronautics Executive Board Member but as the Chairperson of AMA's Advanced Flight Systems Committee that's responsible for developing safety programming for new and emerging technologies and their utilization in model-aircraft. In this comment I have some technical concerns and some recommendation to enhance safety at flying sites.

Broadcast issues with the FAA's ASTM F-38 Remote-ID standard

We are concerned that the FAA accepted the ASTM F38 Remote-ID and tracking standard. Experts like Amit Ganjoo, CEO ANRA Technologies, have said that this technology choice for broadcasting in an already crowded unlicensed Spectrum band (2.4GHz) where signal interference is expected that it may likely prove in time to be no longer usable.

Should F38 be the basis of a security system that all future drone regulations will be built upon or should further considerations be given to licensed spectrum bands? It's been said that F-38 is a fundamentally flawed standard. On Oct 7, 2019 the FAA approved the well-respected uAvionix company to further test UDS-B prototype broadcast systems that use an FAA and FCC authorized and protected spectrum band that may be a better choice to not have UAS owners worried about having to upgrade Remote-ID systems again in the not to distance future because of excessive signal loss or interference.

Suggestions for considering the use of an ADS-B out/in not for individual members just one for a flying sites and wouldn't affect the frequency band for full-scale.

To enhance safety and allow for higher altitudes at FRIA sites a club could use an ADS-B OUT unit as a site warning beacon to full-scale aircraft. It would warn any full scale aircraft flying at low altitudes that they were approaching a FRIA area where model aircraft were flying in real-time. Operators would only have the beacon on when model aircraft were flying. It could also benefit the UAS commercial operators since the NPRM doesn't prohibit ADS-B IN from being used in a UAS.

For AMA club flying sites in controlled airspace seeking FAA FRIA approval an ADS-B IN warning system might suffice – This would enhance safety considerably allowing members to know when full scale aircraft were approaching the FRIA site. The ADS-B IN unit would utilize a microcontroller chip programmed to activate a series of audio tones through an amplified speaker when full scale aircraft are approaching the FRIA site. It would enhance the flight operational risk mitigation of the current AMA See & Avoid and Visual Observer requirement. It would also enhance the safety of operational altitudes in Class G airspace up to 1,200 ft. + AGL.

There is some concern about the public having access to all of the broadcasted message elements.
The NPRM message elements should be divided into confidential (encrypted) and public (not encrypted) data elements and the smartphone app should provide decrypt privileges to only authorized individuals.

Require Serial numbers on all the RID modules as the operator identifier message element – This will allow the RID modules to be moved from one model aircraft to another and each aircraft will need the same serial number affixed externally for law enforcement to easily see.

Register the RID modules instead of each UAS/model-aircraft except UAS that have permanently integrated RID modules. This would lessen the registration cost burden on modelers that have many model aircraft. There are no valid safety or security reasons to warrant that each model aircraft have a different serial number as long as the serial number on the aircraft matches the RID module serial number which is the owners identifier message element. Model aircraft being sold, purchased or traded without RID modules wouldn't have the hassle/fees of having to register and de-register these types of aircraft