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U.S. Department of Transportation
Docket Operations, M-30
West Building – ground floor
Room W12-140
1200 New Jersey Ave., SE
Washington, DC 20590

Reference: Remote Identification of Unmanned Aircraft Systems, Regulatory Docket No. FAA-2019-1100

To Whom it May Concern,

The Experimental Aircraft Association (EAA) is the world leader in recreational aviation. With an international membership of over 240,000 people in over 100 nations, EAA brings together pilots, aircraft builders, owners, and aviation enthusiasts who are dedicated to sharing The Spirit of Aviation by promoting the continued growth of aviation, the preservation of its history, and a commitment to its future.

EAA is concerned that the Remote Identification of Unmanned Aircraft Systems rule as proposed will be detrimental to traditional model aviation, harmful to traditional model aviation as a pathway to manned flight, and that it includes serious implications for manned aircraft and beyond. EAA does support the concept of remote ID for unmanned aircraft systems (UAS) including recreational camera platforms that are not flown at FAA-recognized identification areas (FRIAs). However, the one-size-fits-all approach in the rule as it is currently drafted is not an appropriate solution.

In general, EAA does not believe that *any* new regulation on traditional modeling is warranted, as traditional, line-of-sight model aircraft have never posed a safety or security threat to the National Airspace System (NAS). In fact, modelers safely flew in the NAS for generations with little more than a brief advisory circular in the way of official oversight from the FAA. However, the following is a good-faith effort to propose an alternative to this NPRM that meets its stated intent with minimal disruption to traditional hobbyists.

Aviation Pipeline

Traditional model aviation has played a vital role in the aviation industry in the past century. A large percentage of EAA members, manned pilots, and other professionals in the aviation

community got their start in aviation from building or flying models, and it is imperative to the future of aviation that the hobby survives.

For those with an interest in aviation that are too young to fly full-scale manned aircraft, or who cannot initially afford to, traditional model aviation offers an affordable opportunity to build, fly, and get involved in the tight-knit aviation community that encourages future involvement in the industry. The hobby also introduces young people to the knowledge and skills that run parallel to those used in full-scale aviation. The FAA and industry are undergoing numerous efforts to expand the aviation pipeline and grow participation in aviation as a career. A large number of pilots, mechanics, avionics technicians, engineers, all the way up to world-renowned aircraft designers and astronauts got their start in the aviation world through building and flying traditional model aviation.

EAA and others are using modeling as an important piece of this pipeline through efforts such as our Young Eagles Build and Fly program. This program gives young people access through our chapter network to a model kit build project, and then allows them the opportunity to fly the model with mentors from the chapters. This STEM education program uniquely immerses young people in the aviation community in a way that keeps them engaged long-term, an imperative element of the aviation pipeline that traditional model aviation provides.

Traditional model aviation is an excellent entry point for youth to spark enthusiasm in aviation early and evolve into a lifelong passion of flying. This hobby is critical to the future of aviation as a professional pathway into aviation careers, and traditional model aviation must be protected for the significant role it plays in the aviation industry pipeline.

Safety and Security

This rulemaking package is being drafted in the interest and with the purpose of integration of unmanned aircraft into the NAS. Traditional model aviation is a prime example of integration. In nearly the entire history of manned flight, model aviation has coexisted in the airspace without any safety issues. This proposed rule is based on assumed safety and security threats that are not proven in traditional model aviation, a hobby that has seamlessly been a part of the NAS for decades. In many cases, fixed flying sites have existed for decades within just a few miles of significant public-use airports and yet Air Traffic did not ever raise a concern that operations were occurring in those areas due to the safe nature of traditional modeling. Additionally, there has never been a credible security threat posed by a traditional model aircraft. There is certainly a public concern that other types of UAS with semiautonomous capabilities can and will be operated in proximity to manned aircraft by poorly informed, careless, or malicious operators, but the same cannot be said for models.

The capabilities of traditional model aircraft as we have defined below are limited. They do not pose the same risk to manned aircraft and the public as more autonomous vehicles do because they are incapable of sustained flight beyond visual line of sight under normal flight conditions, and therefore they should not be subjected to the same requirements.

One-Size-Fits-All Approach

While EAA recognizes the need for remote ID for many categories of unmanned systems, the one-size-fits-all approach of this proposed rule is not appropriate. The proposal shows very little understanding of the different levels of safety and risk that exist in the unmanned community. This rule splits UAS into three categories based on equipage, but the types of aircraft impacted by this rule should be considered based on capability and risk profile.

For manned aircraft, the FAA has a risk continuum that breaks down the level of risk that exists for every category of aircraft, all the way from ultralights to airliners, and assigns it appropriate levels of regulation and policy oversight. In the same way, a risk continuum should be established for unmanned aircraft to apply the appropriate regulations to different levels of risk. Categories such as control line/free flight model aircraft, traditional model aircraft, first person view model aircraft, quadcopter camera platforms, and all the way up to commercial large-scale UAS should be segmented and considered separately in the rulemaking process.

FAA Statutory Authority

While the FAA carries a congressional mandate to ensure the safety of the NAS, EAA questions that the Agency has statutory authority to regulate the manufacture, importation, and sale of UAS that lack an airworthiness certificate. The issuance of such a certificate is the primary means by which the FAA exercises authority over design and manufacture of aircraft under the current regulatory framework, and even in these cases there are limits to the FAA's ability to oversee manufacture and importation of aircraft and parts. In the absence of an airworthiness certification process for the UAS regulated under this NPRM, it is not clear that the FAA has the mandate. Implementing such a certification process would be extremely burdensome on manufacturers and operators alike, far surpassing the burden and administrative load of the inappropriate registration requirement already contemplated in this NPRM.

Regardless, design and production requirements are inappropriate to apply to traditional model aircraft given their low risk profile and lack of need for specialized equipment, as discussed in these comments.

ARC Recommendations

The Aviation Rulemaking Committee (ARC) finalized their report in 2016, and four years is a significant amount of time in an industry that is quickly evolving. EAA suggests that in drafting the final rule the FAA should give more weight to the comments received in this period than the original recommendations that came out of the ARC. While many of the recommendations that came out of the ARC hold merit, this group was comprised of primarily commercial and manned interests, and recreational operators were largely underrepresented. Had EAA been permitted to be a member of the ARC, we could have helped provide a better balance to the recreational representation.

Definitions

EAA proposes the following definition, as referenced throughout our comments. This definition lines up with the language from the 2018 FAA Reauthorization Act:

> **Traditional Model Aircraft** (TMAs) – Unmanned aircraft systems that are not capable of navigating beyond the visual line of sight of the operator through advanced flight systems and technology.

EAA also recommends the following, based on definitions by the Academy of Model Aeronautics Flight School:

> **Control Line** – A traditional model aircraft that is designed to be flown while permanently connected (for the purpose of flight) to a line or lines in a circular path around the pilot.
>
> **Free Flight** – This is the oldest form of traditional model aircraft that is designed to be launched and maintained within visual line of sight and to be flown with no piloted means of control.

EAA strongly urges the FAA to remove the definition in the proposed rule of "amateur-built unmanned aircraft." While the "major portion" rule works for manned aircraft, TMAs come in many different forms that make a 50 percent rule non-transferable. The variety of TMA construction types do not match up with the amateur-built category in full-scale aviation. This definition is not realistic and not applicable for the purpose of this rule.

EAA suggests removing this definition and meeting its intent with our recommendations in the sections below. The way that an aircraft is built should have no effect on the equipment that is required for a TMA. Instead, aircraft types should be defined by and regulated based on their capabilities.

The NPRM implies that there are two types of model aircraft, and therefore oversimplifies the various levels of construction that exist in TMAs. The following table demonstrates the complexity of TMA construction types. It is representative of these types, but not intended to be an exhaustive list:

Examples of TMAs that are not capable of flight beyond visual line of sight:			
Type of Construction	**Description**	**Manufacturer supplied components**	**Technical Equipment required[1]**
True Scratch Built[2]	Modeler draws/develops plans and builds the model	None	The modeler must obtain/fabricate all
Plans Built	Modeler obtains plans and materials to fabricate the aircraft	None	The modeler must obtain/fabricate all
Short Kit	Modeler obtains many of the complex parts precut but must provide additional materials	None	The modeler must obtain/fabricate all
Kit	Plans and materials for the model are provided to the modeler from a single source	Kits often include some items such as control linkages and fuel system components	The modeler obtains/fabricates powerplant and all control components
Almost Ready to Cover (ARC)	The structural components are partially preassembled and ready for the application of the covering[3]	ARC often include some items such as control linkages and fuel system components	The modeler obtains/fabricates powerplant and all control components
Almost Ready to Fly (ARF)	The aircraft is preassembled[4]	ARF often include some items such as control linkages and fuel system components	The modeler obtains/fabricates powerplant and all control components
Plug and Fly (PNF)	The aircraft comes in ready to fly configuration[5]	PNF include all systems except receiver and transmitter	Transmitter (Control Station) and receiver
Bind and fly (BNF)	The aircraft comes substantially preassembled including all airborne equipment[6]	Servos are installed but no transmitter (Control Station) is provided	Transmitter (Control Station)
Ready to fly (RTF)	Aircraft includes all airborne equipment and the transmitter (Control Station)[7]	All equipment necessary to fly the aircraft is provided	none

[1] For the purpose of this document, technical equipment means: powerplant and its controls, flight control actuators (servos), receivers, battery or batteries, fuel system if required, landing gear (may be retractable), and covering/finishing materials

[2] In some cases, scratch built may include plans built

[3] The aircraft is partially assembled into shippable sized subassemblies that the modeler must assemble

[4] The aircraft is partially assembled into shippable sized subassemblies that the modeler must assemble

[5] The aircraft may be partially assembled into shippable sized subassemblies that the modeler must assemble

[6] The aircraft may be partially assembled into shippable sized subassemblies that the modeler must assemble

[7] The aircraft may be partially assembled into shippable sized subassemblies that the modeler must assemble

Recommendations

This NPRM is focused primarily on regulating individual aircraft, while the risk comes from the operators and operating in unsafe areas. This approach is misguided in the case of TMAs, where operators will typically fly multiple aircraft from a single site in the course of an operating session. As long as the capabilities and flying areas are known, registration and equipage of individual TMAs are unnecessary for mitigating any possible risks.

The proposed rule is based on several failed assumptions when it comes to TMAs, including the lifespan and volume of models owned by individual operators. The majority of modelers own and operate multiple models, some having as many as 100 or more, that they fly one at a time rotationally. While commercial operators may have the ability to fly more than one system simultaneously, modelers are limited in both capability and intent to flying one of their aircraft at a time.

1. Registration

The proposed change to uniquely registering these systems does not make sense when the intent is to identify the operator, and in the case of TMAs, the operator is easily identifiable without individual aircraft registration information. Current regulations require operators to label their aircraft with their registration number, therefore making identification easy. This rule additionally puts a major administrative burden on the FAA and will make compliance difficult if not impossible for many modelers. If better data on fleet size is desired, a simple survey similar to the existing GA survey can be accomplished.

EAA recommends that the registration requirements for TMA remain per the operator. Based on the above definition, TMAs are incapable of maintaining flight beyond visual line of sight, and therefore specific make and model information is not necessary for ensuring safety or for law enforcement agencies to accurately identify the operator and the aircraft.

Likewise, EAA recommends removing the serial number requirement for TMAs flying outside of a FRIA under our limited remote ID proposal below. As the proposed rule says, serial numbers should not be required within FRIAs, but we recommend that the restriction of aircraft without serial numbers to these areas should be removed. Providing a serial number for every previously manufactured TMA and every TMA that does not come primarily preassembled will be a burdensome and complex process for the FAA and the operators of these aircraft. A serial number would have no purpose for an operator that is registering themselves instead of their individual models.

2. Limited Remote ID

The limited remote ID requirements in the proposed rule as they apply to TMAs flying outside of FRIAs are unrealistic. The rule requires range-limiting technology that does not currently exist and is not available as a retrofit for older aircraft. It also requires connectivity that is not available in many of the areas where TMAs are flown.

TMAs are by definition restricted to flight within visual line of sight, and therefore EAA recommends that the 400 feet from the control station restriction be removed for TMAs. Instead, we suggest parameters including a 400-foot ceiling (unless otherwise authorized through existing processes) and within visual line of sight as is currently required in the proposed rule.

EAA recommends, as an alternative to the requirement that depends on reliable internet connectivity, that operators or responsible parties of TMAs should have the ability to register on a website or a smartphone app before they plan to operate in a certain area at a certain time. This site or app will have to be available at no cost to the operators, and could operate under similar infrastructure to the Low Altitude Authorization and Notification Capability (LAANC) system. An operator could submit their flight plan while they have internet, then go out to the spot where they planned to fly.

EAA envisions a system developed by UAS Service Suppliers (USS) where TMA operators can submit the following information:

- Operator registration number
- Operator phone number
- Location of flight
- Time window when the TMA will be flying
- Basic aircraft configuration description (i.e. type of airframe and type of propulsion)
- Check box assurance statement that the aircraft will be flown within visual line of sight

As demonstrated, these recommendations for limited remote ID can be handled through existing processes and at a minimal additional workload to Air Traffic.

3. FRIAs

The FRIA system as proposed does not support the long-term existence and growth of these areas. FRIAs run parallel to airports in that they are critical infrastructure for the operation of TMAs. Promulgating a robust FRIA network is good for all of aviation– these areas are vital to the continued role that TMAs play in the industry pipeline. The eventual removal of FRIAs, the intent of which is stated in the proposed rule, will be detrimental to traditional model aviation, and this will have a snowball effect into the rest of the industry.

EAA recommends that the 12 calendar month application timeline be removed from the rule. FRIAs should be established at any time in the future as an area for UAS to operate safely and under the safety guidelines of a Community Based Organization (CBO). EAA recommends that after the establishment of a FRIA, no renewal process should be necessary. A FRIA can be terminated by the FAA or by the owner of the FRIA for just cause; otherwise the FRIA should exist indefinitely.

EAA also recommends that the establishment of FRIAs should be a direct FAA process, not one administered by CBOs. Many private model fields that exist today follow the safety guidelines of a CBO without actually falling under the programming and usage of the CBO. EAA suggests

using a time-proven existing system such as the FAA's Web-based Operations Safety System (WebOPSS) to establish an application process directly through the FAA. Similar to the way this system is used for sightseeing rides in manned aircraft, applicants could work with their local FSDO UAS specialists to enter basic data into a modified version of a J-page. FRIA data would be available to the FAA in a national database populated by information from these forms. Using an existing FAA online system would make the development and use of such application simple and put a minimal burden on all involved parties.

In many cases, a TMA club may choose to host a small event outside of an established FRIA, such as a seaplane launch at a lake or a joint model-flying and general aviation event at a local airport that jointly welcomes youth for Young Eagles flights and remote control (RC) trainer buddy box flying. These types of events offer an opportunity for hundreds of youth every year to get involved in the aviation community, and a simple process should be established to request a temporary FRIA (TFRIA) for this purpose. EAA recommends again using the USS app or website discussed in section 2 of these comments to request authorization for a larger group of operators to establish a temporary area where the rules of a standard FRIA would apply for a certain period.

4. Waivers

Certain larger unique events may require temporary relief from multiple parts of the rules. Due to the complexity of these requests, EAA recommends adding a part to the rule that allows a waiver process parallel to Part 91.903. This rule provides a straightforward and streamlined process for event hosts to get the approval they need for their event. A process in line with this will be used for modeling activities at many large-scale events up to and including EAA AirVenture Oshkosh.

FAA Form 7711-2 is a simple waiver application that is used for Parts 91, 101, and 105. This form can easily be modified to include Part 89, and the process for applicants to work with their local Flight Standards District Office can simply be replicated.

5. Control Line and Free Flight

EAA urges the FAA to clearly exclude control line and free flight aircraft as defined above from any and all requirements. While by definition these aircraft are UAS, because of their specific flight characteristics, these types do not pose any kind of risk to manned aircraft or the general public and therefore should be specifically excluded.

6. Privacy

Modelers that are flying under the remote ID rule, including our proposed changes to limited remote ID, will be sending a significant amount of information to the FAA through commercial vendors. This information includes real-time location in some cases and identifying information such as phone number and operator registration number. In order for these operators to be protected, there must be an option to opt-out of being included in publically accessible data. The

FAA and law enforcement will have the information that they need, and in most cases, there is no reason to require operators to provide this information to the public.

7. First Person View Technology

EAA supports the safe integration of First Person View (FPV) technology. It is an exciting new part of the UAS industry that should be supported. For recreational purposes, EAA supports the requirement for a visual observer to always maintain visual line of sight of aircraft being flown with this technology. Under the recreational uses of FPV with an observer, this technology could fit within EAA's definition of TMAs. We strongly urge the FAA to work with the FPV community to find a solution that will allow this new segment to integrate into the airspace appropriately.

Conclusion

EAA once again stresses the import role that traditional model aviation plays in the aviation industry, and strongly urges the FAA to protect this segment of the community as the NAS evolves. Modeling is vitally important to a large percentage of manned operators both as their pathway into the industry and as a hobby in conjunction with flying manned aircraft. As stated previously, model aviation is an important pathway to all types of aviation careers. The FAA must work towards a risk-based approach for unmanned aircraft regulations that runs parallel to the manned process. While remote ID requirements are appropriate for certain UAS operations, the safety record of the modeling community and the limited capabilities of TMAs make these requirements unnecessary and overly burdensome for traditional modelers.

EAA appreciates the opportunity to comment on this major rule change and thanks the FAA for recognizing the concerns of the traditional model community.

Respectfully,

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