Whirlwind

COCKPIT CORNER – by Brian Sherman, did4ways@aol.com

2020 starts a new decade and a change to the BFMS officer staff as well as a new FAA NPR, released on 12/31/19, which will require unmanned aircraft systems (drones, planes and helicopters) to be equipped with remote identification (RID) systems. Congratulations to Wayne Sherman, our new VP. With his strong support the BMFS will to continue to function effectively, serve our member's needs and provide continuity of leadership.

The new FAA NPR, however, as it is currently drafted poses a real and imminent threat to all RC hobbyists and the industry's survival. Some have even gone so far as to suggest it can affect pilot safety. Per the FAA NPR:

"Remote identification (or Remote ID) is the ability of an unmanned aircraft in flight to provide certain identification and location information that people on the ground and other airspace users can receive." The NPR goes on to state that it:

1) *Establishes operating requirements for UAS operators and ==performance-based design and production standards for producers of UAS==.*

   This enables the government to impose regulations on recreation hobby manufacturers without regard to cost and reasonableness. It has the potential to raise costs via requirements to use licensed technologies approved by the FAA. The net result could be that manufacturers are no longer able to produce reasonably priced products that the average recreational user can afford.

2) *A network of Remote ID UAS Service Suppliers (Remote ID USS) that would collect the identification and location in real-time from in-flight UAS. The Remote ID USS would perform this service under contract with the FAA a network of Remote ID UAS Service Suppliers (Remote ID USS) that would collect the identification and location in real-time from in-flight UAS. The Remote ID USS would perform this service under contract with the FAA*

   Say good-bye to any privacy rights. And get ready for an annual FAA surcharge to fund these services over which we have no control. In addition, these services require that user continuously transmit both location and the UAS ID via an Internet service. That means you will need a cell phone or tablet with a data plan. For those that don't have unlimited data plans, the extra data charges can be very significant when a lot of flight time is involved.

   Another aspect of this requirement is the ability of non-law enforcement persons (meaning anyone, including those that have a grudge against this hobby, to locate the pilot and potentially go to that location and take hostile action against the pilot.

3) *The remote identification ecosystem is the collection of technical requirements that standards-setting organizations will develop to meet the performance-based design and production requirements in this proposed rule.*

What this seems to imply is that it will take some time yet to fully develop all the standards and infrastructure required to implement the RID functionality in the NAS. It could be six months or six years. But I expect given the current negative press of lone wolf incidents and the desire of companies like Amazon and Walmart to use drones for delivery services there will be a massive to implement sooner than later. Even, if it tramples on the rights of the recreational community.

REQUIREMENTS for EXISTING UAS USED for RECREATIONAL FLYING

Below is the summary excerpt from the NPR. Clearly it impose new and onerous requirements on the recreational community. It does not mention any change in the current registration fee but THIS IS the USA GOVERNMENT. You can be sure that the FAA will not miss the revenue generating potential.

Owners of unmanned aircraft used exclusively for limited recreational operations [5] who currently register multiple aircraft under a single registration number would be required to register each aircraft, individually by manufacturer, model, and, if the unmanned aircraft is a standard or limited remote identification unmanned aircraft, the aircraft's serial number, on or before the 36th month after the effective date of the final rule. The owners of small unmanned aircraft registered after the effective date of the final rule would have to comply with the new registration requirements prior to the operation of the unmanned aircraft.

CARVE OUT for UAS's w/out RID

The NPR does provide an exception for non-RID equipped UAS's as listed below. Basically this means AMA certified fields. It is unclear at this time if the fields need to register separately for this certification or if it is automatic with the AMA. I'll try to find more information. But what it does mean is that all our current models will not be allowed to operate legally anywhere else, even your own backyard.

UAS without remote identification	*The limited number of UAS that do not have remote identification equipment would be allowed to operate within visual line of sight and within an FAA-recognized identification area.*
	With authorization from the Administrator, a person may operate a UAS that does not have remote identification for the purpose of aeronautical research or to show compliance with regulations.

Given the proliferation of drones in the NAS for both recreational and commercial purposes it is clear that some type of RID system is required to ensure the safety of both people and property. The NPR, however, falls far short of the need to protect both the privacy rights and NAS use by the hobbyist and to a lesser extent those operating drones under   . And it does little to nothing to stop those with nefarious intent.

For those interested in learning more about the NPR and its potential impact on us individually and as a community of flyers below are several links you may find helpful. Let your voice be heard before the COMMENT PERIOD ends on 3/2/2020.

See you all at Saturday's meeting.

Until next time keep the cockpit up and be safe.

Additional Resources and Information

- **FEDERAL REGISTER FAA NPR**: https://www.federalregister.gov/documents/2019/12/31/2019-28100/remote-identification-of-unmanned-aircraft-systems

  Has the full NPR detail.

- **DRONEU Website**: https://www.thedroneu.com/blog/faa-announces-drone-remote-id/

  An interesting interactive article and BLOG on the PRO's and CON's of the RID technology. Worth the read.

FAA ESTIMATED COSTS

Table 2—Preliminary Estimates of Costs and Cost Savings of Proposed Rule ($Millions) * Base Scenario—Primary Estimate

Affected entity/category	10-year present value (at 3%)	Annualized (at 3%)	10-year present value (at 7%)	Annualized (at 7%)
UAS Owners/Operators	$145.87	$17.10	$117.48	$16.73
Remote ID USS Subscription	241.72	28.34	191.74	27.30
UAS Producers (US and Foreign)	134.58	15.78	111.58	15.89
Developers of Remote ID Means of Compliance	2.85	0.33	2.36	0.34
Remote ID USS Memoranda of Agreement	1.60	0.19	1.43	0.20
Community Based Organizations	0.39	0.05	0.35	0.05
FAA Costs	56.96	6.68	50.33	7.17
Total Costs	583.98	68.46	475.27	67.67
Cost Savings (reduced hours for FAA investigations)	(2.45)	(0.29)	(1.82)	(0.26)
Net Costs	581.52	68.17	473.46	67.41

Example Operating Scenarios

The FAA is providing these notional scenarios to provide examples of how the FAA envisions the proposed rule would apply to certain common situations.

1. Subscribing to a USS

Kim decides to give her daughter Emily a UAS for her birthday. Emily, excited to finally have her own UAS, eagerly unwraps the package so she can begin taking aerial selfies. Under FAA rules, Emily's drone must be registered and therefore comes with remote identification. The UAS will not take off unless it is connected to a Remote ID USS. In order to comply with the remote identification requirement, Kim researches FAA-qualified Remote ID USS on the FAA's website and decides to subscribe to Alpha USS, Inc. Emily's UAS was designed to pair with her smartphone and connect to the Remote ID USS through her smartphone's internet connection. After Emily's UAS connects to Alpha USS, she is able to start using her drone to take selfies.

2. Operating a Standard Remote Identification UAS

Patty has a photography business and has decided to purchase a UAS to take aerial photos for weddings and other events. She researched different types of UAS and their capabilities and determined that she needs a UAS that can operate more than 400 feet from its control station. Patty decides to buy a standard remote identification UAS. Because the UAS has standard remote identification, it is designed to: (1) Connect to the internet and transmit the remote identification message elements through that internet connection to a Remote ID USS; and (2) broadcast the same message elements directly from the unmanned aircraft.

Patty sees that the UAS she wants to buy has a label that says it is a standard remote identification UAS. Regardless, Patty checked the FAA's website to confirm that the UAS she is buying has a valid FAA-accepted declaration of compliance. Because the UAS was listed on the FAA website, the UAS meets the requirements of part 89. Patty intends to operate her UAS for business purposes, so the operations are subject to the operating rules in 14 CFR part 107, which require her to register the unmanned aircraft with the FAA. Patty goes online to the FAADroneZone [63] website, applies for, and is issued a Certificate of Aircraft Registration under part 48. As part of the application process, Patty submits her unmanned aircraft's serial number. Because Patty is required to register her unmanned aircraft under part 48, she is subject to the remote identification operating requirements in part 89.

Patty then subscribes online to Alpha, Inc., an FAA-qualified Remote ID USS. Her UAS is designed to connect to the internet by automatically pairing with her personal smart phone when the phone is running an application provided by Alpha USS. Each time Patty uses her UAS, it automatically transmits the standard remote identification UAS' remote identification message elements through that internet connection to Alpha USS. Patty chooses to use her unmanned aircraft's serial number for the UAS Identification message element, but in the future, she may instead choose to use a session ID assigned by Alpha USS.

Sometimes, Patty's UAS loses its internet connection while she is operating in rural areas; she can continue the operation as long as the unmanned aircraft is still broadcasting the remote identification message elements. During one operation, Patty's UAS indicated that, due to a malfunction, the unmanned aircraft was no longer broadcasting the message elements, at which point she landed the unmanned aircraft as soon as practicable.

During a different operation, Patty's UAS attempts to connect to Alpha USS at the time of takeoff, but Alpha's remote identification service is unavailable because Alpha's server is down. Patty's UAS can still connect to the internet through her smart phone and she discovers that an alternate FAA-qualified Remote ID USS, Bravo, Inc., is available. Patty's UAS connects to Bravo, Inc. and is able to fly her UAS. Patty's subscription with Alpha USS provides for a "roaming" feature that allows her to connect to other available USS free of charge so she can have uninterrupted service. If her subscription did not provide this roaming feature, Patty would have had to pay any associated fees directly to Bravo. This is because if any Remote ID USS is available, even if it is not the one she contracted with, her UAS is designed to

connect to it through the internet. As long as she can connect to the internet, it is incumbent on Patty to connect to a USS. Only when the UAS cannot connect to the internet would the unmanned aircraft be able to take off while only broadcasting.

On another occasion, Patty is unable to connect to Alpha, Inc. at the time of takeoff due to a disruption in Alpha's service, but Bravo is also experiencing problems. There are no other publicly available Remote ID USS. Because Patty's UAS is designed not to take off when it has access to the internet but is not connected to a Remote ID USS, her unmanned aircraft would not take off. Her service would be interrupted until Alpha, Bravo, or another publicly available USS became available.[64]

3. Operating a Limited Remote Identification UAS

Charlie purchases a used UAS that looks like a spaceship. The UAS weighs more than 0.55 pounds and he intends to operate it outside his house for recreational purposes, such as filming his daughter's soccer games and entertaining his sons who love science fiction movies. The person who sold Charlie the UAS assures him it is remote identification compliant. Because the company responsible for production of the UAS was required to label the unmanned aircraft to indicate that it is remote identification compliant, Charlie is able to confirm the seller's assurance by reading the label affixed to the aircraft. Charlie's UAS is a "limited remote identification UAS," which means it is designed and produced to operate no more than 400 feet from its control station and cannot broadcast remote identification message elements. Under part 89, he is only allowed to operate his limited remote identification unmanned aircraft within visual line of sight. Prior to his purchase, Charlie visits the FAA's website and confirms that his UAS has an FAA-accepted declaration of compliance. After the previous UAS owner de-registers the unmanned aircraft as required by § 48.105(b)(2), Charlie goes online to the FAADroneZone website, applies for, and is issued a Certificate of Aircraft Registration under part 48. During the registration process, he provides the UAS manufacturer name, the model name, and the aircraft's manufacturer-issued serial number.

Because Charlie is required to register his unmanned aircraft, he is also subject Start Printed Page 72470to the remote identification operating rules in part 89. This means that before Charlie can start to use the UAS, he must subscribe to a USS. He subscribes to Bravo, Inc., an FAA-qualified Remote ID USS and opts to use the unmanned aircraft's serial number for the UAS Identification message element. Charlie's UAS is designed to pair with his smartphone to transmit the remote identification message elements through an internet connection to a USS. Because Charlie's UAS cannot broadcast remote identification message elements, it does not function unless his smartphone is connected to the internet and transmitting through that internet connection to Bravo USS. If Charlie's UAS loses its connection to either the internet or is unable to transmit to Bravo USS in the middle of an operation, he would be required to land the aircraft as soon as practicable. Charlie may take off again as soon as his UAS reestablishes its connection to the internet and can transmit to a Remote ID USS.

4. Operating a UAS Without Remote Identification

Linus wants to fly a UAS without remote identification that he assembled at home from parts he bought at a hobby shop a few years ago. He uses his unmanned aircraft exclusively as a model aircraft. Since he registered his unmanned aircraft in 2018, before the effective date of the remote identification rule, he was not required to provide any specific information about the aircraft, such as the serial number. Linus's aircraft registration expires in 2021, and he will renew the registration of his unmanned aircraft on the FAADroneZone website. At that time, he would have to submit the unmanned aircraft's manufacturer and model name as part of the registration process. Because Linus built his own UAS, he plans to use his own name as the manufacturer and use a model number of his choosing.

Because his UAS does not have any remote identification capabilities, Linus knows he may only operate it within an FAA-recognized identification area. Linus is a member of the Arizona Amateur Modelers (AAM) organization, which has an FAA-recognized identification area near his home. He found information about AAM's FAA-recognized identification area at the FAA website and has agreed to AAM's terms and conditions for operating within the FAA-recognized identification area. While operating there, Linus makes sure that both he and the unmanned aircraft physically stay within the boundaries of the FAA-recognized identification area. Linus operates the unmanned aircraft within visual line of sight and in accordance with any applicable operational rules and site-specific safety guidelines.

5. Flying in an FAA-Recognized Identification Area

Scenario 1: Linus owns another UAS which is a standard remote identification UAS and wants to operate it at AAM's FAA-recognized identification area. Since his second UAS is a standard remote identification UAS, even when operating within the boundaries of the FAA-recognized identification area, he is still required to ensure that the standard remote identification UAS transmits the applicable remote identification message elements through an internet connection to a Remote ID USS and broadcasts directly from the unmanned aircraft. The remote identification requirements for Linus are no different inside or outside of the FAA-recognized identification area when he is operating a UAS with remote identification.

Scenario 2: Linus owns a third UAS—this one a limited remote identification UAS—which was given to him as a birthday present. He decided he would try out his new limited remote identification UAS after he finished posting on his blog. While working on his computer, there was a massive power outage that took out all communications in the city. Since Linus lost connection to the internet in both his computer and mobile phone, he decided he would go fly his limited remote identification UAS at the nearby FAA-recognized identification area until the internet came back and he could finish working on his blog. When Linus arrived at the FAA-recognized identification area, he took out the limited remote identification UAS from its box, turned it on, and attempted to fly. The limited remote identification UAS did not lift off. Linus realized that he was going to have to go back home to get his standard remote identification UAS or his UAS with no remote identification capabilities. Even though he was at an FAA-recognized identification area, he would not be able to fly his limited remote identification UAS because the limited remote identification UAS cannot broadcast remote identification message elements and was produced to meet requirements that prevent it from taking off when it cannot connect to the internet and transmit to a Remote ID USS. Linus will be able to operate his limited remote identification UAS at the FAA-recognized identification area or elsewhere when the connection to the internet is reestablished and his limited remote identification UAS is able to transmit to a Remote ID USS.

Scenario 3: Sam is cleaning out his closet and finds a UAS that he bought a number of years ago. The UAS was purchased before the remote identification rule went into effect and the unmanned aircraft weighs 1 pound. He remembers registering the unmanned aircraft, but knows it does not have remote identification. Sam is aware that some older UAS manufactured without remote identification could receive a software update that makes them remote identification compliant. He checks the UAS manufacturer's website, but unfortunately his model of UAS is not eligible for an update. Because Sam's unmanned aircraft is required to be registered and does not have remote identification, Sam can only operate it at an FAA-recognized identification area.

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Editor's Note: Bruce Simpson (RCModelReviews) makes an excellent suggestion: Raise Class G minimum operating altitude for G/A aircraft from 500 ft. to 1000 ft. except when landing and departing. The existing "see and avoid" rules would still apply to all in all situations. That would provide 600' of vertical separation instead of the current 100'. This would have a minimum impact on all involved.

Any questions or comments should be directed to
Scott King at:
skyking@ptd.net

The next meeting of the BFMS will be at:
PJ Whelihan's (Platz's)

Saturday, Jaunuary 11th at Noon