

October 6, 2025

ELECTRONIC SUBMISSION

Attn: FAA-2025-1908

Michelle Ferritto
U.S. Federal Aviation Administration
800 Independence Ave SW
Washington, DC 20592

Dear Ms. Ferritto:

On August 7, 2025, the Federal Aviation Administration (FAA), jointly with the Transportation Security Administration (TSA), published the Notice of Proposed Rulemaking, “Normalizing Unmanned Aircraft Systems Beyond Visual Line of Sight Operations” (BVLOS).¹ In this Proposed Rule, FAA and TSA propose performance-based regulations to enable the design and operation of Unmanned Aircraft System (UAS) technologies at low altitudes BVLOS, and for third-party services that support these operations.

This Proposal was statutorily required to be published within four months of enactment of the FAA Act of 2024,² which occurred on May 16th, 2024, and the Final Rule is due within 16 months of enactment.³ As such, not only was the publication of this Proposal 11 months overdue, but the Final Rule was itself technically due last month. It is deeply unfortunate that this rulemaking was not completed as legally required, given its importance.

Other countries are getting ahead of the United States in the area of drone delivery as they adapt their regulatory schema to account for the technical feasibility and potential of BVLOS operations. As a simple example, Canada has already expanded its drone regulations to allow BVLOS operations and introduce new pilot and operator certifications for such operations, set to enter into force on November 4, 2025.⁴

Similarly, BVLOS UAS operations are well established in the regulatory regimes of many African countries,⁵ where companies such as Zipline have already demonstrated the feasibility of using BVLOS UAS operations to deliver medical packages efficiently to patients, and have built up a noteworthy record of safety and success.⁶ Given these developments, it is vital that the

¹ Federal Aviation Administration, “Normalizing Unmanned Aircraft Systems Beyond Visual Line of Sight Operations,” *Federal Register*, Vol. 90, No. 150 (August 7, 2025), p. 38,212.

² Pub. L. 118-63, § 44811(a), May 16, 2024, 138 Stat. 1366.

³ *Id.* at § 44811(c), 138 Stat. 1366.

⁴ *Regulations Amending the Canadian Aviation Regulations (RPAS-Beyond Visual Line-of-Sight and Other Operations)*, SOR 2025-70.

⁵ E.g., [The Civil Aviation \(Unmanned Aircraft Systems\) Regulations](#), 2020 (Kenya); Nigerian Civil Aviation Authority, [Assessment Methodology for Beyond Visual Line of Sight \(BVLOS\) Operations for Remotely Piloted Aircraft](#), Doc. No. NCAA-GAD-AC-06 (May 2019) (Nigeria); [Rwanda Civil Aviation Regulations, Part 27: Unmanned Aircraft Systems](#) (Rwanda); and [Reg. 101.01.3](#) (S. Afr.).

⁶ Leedom, Michael. “Drones Deliver Humanitarian Aid in Africa.” *Think Global Health*, 19 June 2024

United States update its regulatory scheme in order to become competitive in this emerging, crucially important technological sector.

Accordingly, this Proposal represents welcome and overdue progress to implement statutory requirements to create a safe, viable, flexible, and scalable regulatory scheme for BVLOS operations, which would help position the U.S. at the cutting edge of the emerging UAS sector. However, there is room to improve the Proposal to make the regulatory scheme more workable within the current state of the UAS technology, so while we congratulate FAA and TSA on this Proposal, we submit these comments in the spirit of constructive engagement.

I. Discussion

A. FAA's Proposal Safeguards Public Safety Interests

The authorizing statute specifically requires FAA to safeguard the “safety of manned aircraft operating in the national airspace system,”⁷ and in many ways FAA admirably fulfills that charge. Certain critical comments on the docket accuse FAA of inadequately safeguarding the public safety, but a review of the facts and the broader FAA regulations into which this Proposal would fit confirm that FAA has built strong safety margins and notable redundancy to ensure that UAS operations under Part 108 would pose as minimal a risk to existing manned flights as would be reasonably possible, while still fulfilling the charge from both Congress and the President to promulgate BVLOS regulations.

The Proposal Merely Formalizes a Regulatory Pathway for UAS Operations that Already Occur Through FAA Waivers

First, many of the safety concerns articulated by critical comments in the docket seem not merely overstated, but divorced from the reality that BVLOS UAS operations already exist in the National Air Space, through waivers and exemptions from existing FAA regulations. Congress has previously authorized FAA to issue waivers and exemptions from its UAS regulations for certain UAS operations,⁸ and these statutory provisions, which do not expire until 2033,⁹ expressly envision that such expedited exemptions and approvals should be used to enable BVLOS UAS operations.¹⁰ As FAA explains in the Proposal, “FAA has issued thousands of exemptions”¹¹ under this authority. Yet the existing BVLOS operations have not resulted in a rash of accidents in the National airspace. To the contrary, the operations have proven so safe that Congress has now required FAA to allow these operations on a normalized basis.

As the history of BVLOS operations in the United States shows, the effect of this Proposal would not be to bring UAS operations into the national airspace, but simply to do so in a way

<https://www.thinkglobalhealth.org/article/drones-deliver-humanitarian-aid-africa>

⁷ 49 U.S.C. 44811(b)(6).

⁸ 49 U.S.C. 44807.

⁹ *Id.* at Section 44807(d).

¹⁰ *Id.* at Section 44807(c)(2)(B).

¹¹ 90 Fed. Reg. at 38219.

that is open, transparent, based in rules rather than waivers, and in a strategic manner that accounts for risk whilst enabling routine advance BVLOS operations.

The Proposal Safeguards Public Safety by Ensuring that BVLOS Operations Occur at a Lower Altitude than Manned Flights are Allowed to Operate

In addition, the Proposal formalizes arrangements that place safety at the forefront. The rule in proposed § 108.180 would limit BVLOS operations to controlled airspace at or below 400 feet. Even in open water and sparsely populated areas, aircraft (including hot air balloons) are required to fly not less than 500 feet above persons, vessels, vehicles, and structures, except when necessary for takeoff and landing.¹² In congested areas of cities, towns, and settlements, this minimum in fact rises to 1,000 feet above the highest obstacle within a horizontal radius of 2,000 feet of the aircraft.¹³ Yet these figures are simply legal minimums; in fact aircraft usually fly much higher. Even hot air balloons will often cruise as high as 3,000 feet, and helicopters and commercial aircraft regularly (or typically) fly thousands of feet higher.

In this context, the proposed 400-foot maximum altitude for BVLOS operations builds a 100-foot buffer below the legal minimum altitude for manned flights, which is even larger as a practical matter when considering how high manned flights will typically cruise. This 100-foot buffer ensures that BVLOS operations will not only fly at a lower level than manned flights, thereby eliminating the threat of impact to the fullest extent possible, but also that redundancy and significant safety margins are built into the BVLOS regulations from the start.

The Proposal Promotes Public Safety to the Extent that Operations Shift to UAS

Finally, it would be a mistake to focus on UAS solely through the prism of potential risks to manned flights, given the significant potential of UAS operations to promote public safety. Direct major public safety benefits exist to allowing traffic management, law enforcement, and firefighters to use BVLOS UAS in a systematic way, and I defer to such public safety organizations to articulate those benefits in their own comments.

Yet these public safety benefits apply to commercial UAS as well, to the extent that the UAS replace manned operations. Looking to crop dusting as an example, in 2024 the National Traffic Safety Bureau reported 60 agricultural aviation accidents, 13 of which proved fatal. At a death rate of 57 per 100,000 workers, this places commercial piloting, especially in agriculture, among the most dangerous occupations.¹⁴ In addition, crop dusting pilots face the risk of chemical exposure from the pesticides and fertilizers they use to fertilize farmland. To the extent that UAS operations replace human crop dusters with drones, there could be a significant public safety benefit in making this risky work less reliant on human pilots.

¹² 14 CFR 91.119(c).

¹³ 14 CFR 91.119(b).

¹⁴ Seebruck, K. & Bowman, N.D. (2025, July 30). Crop dusting: Exploring aerial application safety by plane or drone. University of Illinois Urbana-Champaign College of Agricultural, Consumer & Environmental Sciences. <https://extension.illinois.edu/news-releases/crop-dusting-exploring-aerial-application-safety-plane-or-drone#:~:text=In%202024%20alone%2C%20the%20National,of%2057%20per%20100%2C000%20workers.>

Similarly, shifting delivery packages from drivers to UAS operations would generate public safety benefits, to the extent that such a shift results in UAS displacing road traffic, which would make the roads less congested (with its own separate economic benefits) and accordingly reduce traffic accidents.

B. FAA Should Strengthen the Public Safety Interests of the Proposal by Rewording Proposed § 108.320 to Read “May” Instead of “Would.”

Proposed § 108.320 reads, “No person may serve or attempt to serve, and no operator may allow or continue to allow a person to serve, in an operations personnel position if the person or the operator knows or has reason to know the person has a physical or mental condition that **would** interfere with the safe operation of the unmanned aircraft or make the person unable to perform the duties required of their position safely.”¹⁵

The boldfaced “would” should be changed to “may,” in order to reinforce the discretion of UAS operators to reject potential airmen and flight coordinators on appropriate health grounds. Unfortunately, it is not always knowable with certainty as to whether a potential health condition will in fact interfere with safe operations, so changing that language would clarify that refusal to hire could be based on reasonable belief that falls short of certainty. “May” expresses possibility, which is appropriate given that it is usually not possible to know with certainty whether a health condition will interfere with safe operations until after a safety violation occurs. Given how critical the potential hazard to manned aircraft or people and property on the ground, this suggested change is an unfortunate but necessary precaution to take in the interests of public safety.

C. The Proposed Regulatory Flexibilities Appropriately Account for the Different Risk Profiles Between UAS and Manned Flights.

Airworthiness Certifications

FAA is correct to approach the airworthiness certifications for UAS flights in such a way as to account for the major differences between UAS and manned aircraft, given the major differences in their risk profiles. As a simple example, the UAS covered by Proposed Part 108 have a maximum weight of 1,320 pounds, which make them far smaller than manned aircraft counterparts.

As a basis for comparison, hot air balloons can weigh up to 5,000 pounds depending on the number of passengers they can carry. Similarly, even crop dusters, as relatively light aircraft, can weigh from 4,000 to 16,000 pounds; helicopters can weigh between 2,000 and 120,000 pounds; and a Boeing 747 weighs more than 400,000 pounds. Compared to UAS that can weigh as little as a few dozen pounds, and no more than 1,320 pounds under the proposed regulations, the potential hazards to other aircraft and to people and property on the ground are far more pronounced in the case of manned aircraft. This difference is accentuated, because manned aircraft will also have people aboard, whereas UAS will not have any operators aboard, and are forbidden by the proposed regulations from carrying passengers as well.

¹⁵ 90 Fed. Reg. at 38372 (emphasis added).

This is not to deny the hazards that UAS can pose, both to manned aircraft and people and property on the ground, but it does emphasize the difference in risk profiles, which FAA appropriately takes into account. Related to this size differential, UAS aircraft are more disposable, and given their relative cheapness, potentially far larger in number; many are single-use or retired after a few uses, compared to manned aircraft which often stay in service for decades. FAA is thus correct to determine that requiring airworthiness certifications would only hinder development for UAS aircraft (including development that makes the UAS safer), even while the actual risk inherent in these aircraft is significantly lower.

Personnel Requirements

Relatedly, FAA is on the right track to be more flexible in the proposed personnel requirements, given the difference in risk profiles between manned aircraft and UAS. Licensing by itself does not improve safety. Governmental agencies should be wary before imposing onerous professional licensing requirements, because overly rigid job licensing requirements restrict worker mobility, reduce competition and innovation, raise costs for consumers, and lower employment by creating unreasonable barriers to entry. When such requirements are not narrowly tailored to specific goals and tied to achievable metrics, professional licensing regimes often fail to actually improve public safety, even while creating economic inefficiencies that protect incumbents who manage to obtain the legally required certifications.

In this vein, it is worth recalling that in its authorizing statute, Congress specifically recognized that UAS pilots will often merit different standards, not only from pilots of manned flights but even with each other, by requiring FAA to establish “[s]tandards for remote pilots or UAS operators for BVLOS operations, **taking into account varying levels of automated control and management of UAS flights**” (emphasis added).¹⁶

The greater automation of UAS aircraft, discussed in the Proposal in detail, helps explain why UAS personnel would have less rigid requirements than manned aircraft. Yet even in the case of UAS that are not autonomous, UAS operators remain on the ground and accordingly often have access to greater support than is available to pilots on manned flights, especially during emergency situations. It is also true that UAS operators on the ground remain subject to greater potential oversight from the ground in comparison to pilots entrusted with manned aircraft, who are by definition physically separate from the ground operations and resulting oversight. Indeed, it is worth recalling that FAA is not removing responsibility for the safety of UAS operations, but rather incorporating a corporate responsibility model that better accounts for the greater potential accountability of drone operators working from the ground.

As a final demonstration of the prudence of having more rigid requirements for manned aircraft, it is perhaps worth recalling that pilots of manned aircraft must go through extensive training; as a simple example, FAA requires 250 hours of training to obtain a commercial pilot certificate, and 1,500 hours to obtain an airline transport certificate, which can take years. In contrast, the time to become a drone pilot is typically measured in weeks or months rather than years.

¹⁶ 49 U.S.C. 44811(b)(2).

D. FAA Should Revise or Delete the Proposed § 108.810, in Order to Allow Manually Operated UAS Technologies Under Part 108.

Notwithstanding the advances noted above, the Proposal could be improved in a number of ways. To begin with, it is concerning that FAA envisions that proposed regulatory scheme to be restricted to UAS systems that are “mostly or fully autonomous,”¹⁷ and that FAA drafted the Proposed § 108.810 to effectuate this limitation. Of particular concern is the requirement of Proposed § 108.810(a), which requires, “The unmanned aircraft must be consistently and predictably controllable, stable, and maneuverable with automated flight controls, **without manual flight control being necessary or available...**”¹⁸ (emphasis added).

This restriction contradicts the language of the authorizing statute, undermines the policy goals of the Executive Order that this Proposal purports to effectuate, and would render the regulatory scheme in Proposed Rule beyond the reach of most of the UAS market, which is not yet “mostly or fully autonomous.”

The Proposal’s Limitations Contradict the More Expansive Statutory Language

As a preliminary matter, Congress has defined “Unmanned Aircraft” (UA) as “an aircraft that is operated without the possibility of direct human intervention from within or on the aircraft.”¹⁹ Congress has gone on to define “Unmanned Aircraft System” as “an unmanned aircraft and associated elements (including communication links and the components that control the unmanned aircraft) that are required for the operator to operate safely and efficiently in the national airspace system.”²⁰

In other words, the defining attribute for UAS, as described by Congress, is that any human control cannot come “from within or on the aircraft” itself. There is nothing in the language of this definition that requires automation, or that prohibits human control from the ground, or from anywhere outside the actual aircraft.

The Proposal at hand is required by a statute within that same chapter, namely 49 U.S.C. 44811,²¹ to which those statutory definitions apply. This statute required FAA to issue a proposal establishing a performance-based regulatory pathway for UAS.²² Even while requiring FAA to issue this proposal, nothing within the language of this statutory suggests that Congress envisioned that it would apply to a narrower definition of UAS than that which Congress had already statutorily defined for its laws relating to UAS.

Moreover, the authorizing statute requires FAA to establish “[s]tandards for remote pilots or UAS operators for BVLOS operations, taking into account varying levels of automated control

¹⁷ *Id.* at 38,253. *See also id.* at 38,262 (“[T]his proposed rule is for highly autonomous UA operations”); *id.* at 38,276 (“[T]he UA operations in this proposal would be mostly autonomous”); and *id.* at 38,280 (“Given the highly autonomous nature of operations conducted under this proposal...”).

¹⁸ *Id.* at 38,383.

¹⁹ 49 U.S.C. 44801(11).

²⁰ 49 U.S.C. 44801(12).

²¹ 49 U.S.C. 44811, “Beyond visual line of sight operations for unmanned aircraft systems.”

²² *Id.* at Section 44811(a).

and management of UAS flights.”²³ Given that Congress has explicitly required FAA to establish standards for remote pilots to conduct BVLOS operations under this section, and to take into account the varying levels of automation in these systems, FAA’s attempt to limit the regulatory pathway to “mostly or fully autonomous” UAS would effectively and without explanation substitute FAA’s or TSA’s determination for Congress’s legal directive here.

In order to effect not just the intent, but the clear language of the Congressional language in the authorizing statute, it is critical that FAA change this language to clarify that the regulatory pathway created under Part 108 will be available to piloted, and not just autonomous, UAS.

Limiting the Applicability to Autonomous UAS Undercuts the Policy Goals of the Trump Administration

This Proposal is required, not only by Congressional statute, but also by an Executive Order issued by President Trump.²⁴ This Executive Order specifically requires FAA to publish a rule enabling BVLOS operations for UAS for commercial and public safety purposes,²⁵ and expressly incorporates the definition for “UAS” and “drone” as set forth in 49 U.S.C. 44801(12).²⁶ Thus, FAA’s Proposal to restrict the permitted BVLOS operations to a narrower subcategory of UAS technologies contradicts not just the language of the statute, but also the scope of the operations as envisioned in the Executive Order, which FAA claims to be effectuating in this Proposal.²⁷

When effectuating the Executive Order, FAA should bear in mind the Policy goals as laid out in Section 3 of the Order. In this section, the President states his policy priorities, not just to accelerate “the safe integration of UAS into the National Airspace System through timely, risk-based rulemaking that enables routine advanced operations,”²⁸ but also to advance the domestic commercialization of UAS at scale “by supporting industry-led innovation.”²⁹

The presidential imperative to support industry-led innovation makes clear that the regulatory scheme is meant to cover such operations as the industry is equipped to carry out, in contrast to a technology-forcing approach, in which the Federal Government would use its regulations to direct industry as to where its innovation should lead. Given that the vast majority of UAS operations, including BVLOS operations, still require at least a significant degree of human guidance, FAA’s Proposal to limit the regulatory scheme to autonomous UAS would flout this stated policy objective.

This is particularly true given that a review of the regulatory schema for the countries that do authorize BVLOS operations all seem to at least allow piloted operations, which raises major questions as to the reasons why FAA would in contrast require such automation, and whether such a requirement would even be workable under current technological constraints. At a minimum, FAA would need to establish that BVLOS UAS are already at a place where

²³ *Id.* at Section 44811(b)(2).

²⁴ Exec. Order No. 14,307, “Unleashing American Drone Dominance” (June 6, 2025).

²⁵ *Id.* at § 4.

²⁶ *Id.* at § 2.

²⁷ 90 Fed. Reg. at 38216.

²⁸ Exec. Order No. 14,307 at § 3(a).

²⁹ *Id.* at § 3(b).

autonomous operations dominate, rather than simply declare that to be the case, in order to proceed with the limitation proposed.

E. Relatedly, FAA Should Expand the Proposed § 108.300 to Include Remote Pilots, as Contemplated in the Authorizing Statute

The Proposed Subpart C sets forth the regulations governing operating personnel, who are listed and defined in Proposed § 108.300. Noticeably, remote pilots and/or drone operators are absent from this list. The fact that remote pilots are not even mentioned would be a significant oversight, if not for the explanations elsewhere that FAA Envisions the Proposed § 108.300 as being restricted to autonomous UAS.

Yet the authorizing statute specifically directs FAA to establish “[s]tandards for remote pilots.”³⁰ Given that Congress did not merely envision that the upcoming BVLOS regulations would include UAS operated by remote pilots, but also explicitly instructed FAA to set standards for such pilots, it seems inappropriate for FAA to avoid that directive by simply stating that they will only allow automated flights under the new regulation. The only way for FAA to correct this error would be to include “Remote Pilots” or similar in the list of recognized roles, and to add a provision later in this subpart giving effect to the requirements, if any, inherent in such a role. Alternatively, if FAA plans to allow the role but not publish any specific requirements, FAA should explain that within its regulations, as the absence of any mention in the current form seems to amount to a prohibition of remotely piloted UAS, even as currently permitted in many waivers authorized under Part 107.

Moreover, given that the Proposal envisions Part 108 as effectively replacing part 107 operations, and that there is no place in § 108.300 for remote pilots, this provision as written raises the question as to whether FAA intends to ban such piloted BVLOS operations going forward. At least as significantly, this failure to list or establish standards for remote pilots directly contradicts the requirements of the authorizing statute. Accordingly, if FAA fails to correct this language, the effect could be not only to unnecessarily limit Part 108 operations going forward, but to disrupt certain operations that FAA has already authorized through Part 107 waivers.

F. FAA’s Proposal in Subparts D and E to Require Permits and Certificates for Each Operator Would Create an Onerous Burden on Operators and FAA

FAA’s decision in the Proposal to require permits and certificates for all operators under Part 108 represents a missed opportunity, particularly given that in the authorizing statute, Congress specifically invited FAA to consider a more flexible, lenient scheme that would better foster innovation. When mandating this rulemaking, Congress directed FAA to establish “[a]n approval **or acceptance** process for UAS and associated elements,”³¹ along with “[o]perating rules for UAS that have been approved **or accepted** as described.”³² An acceptance process is typically understood as being more passive in nature than a regulatory approval process.

³⁰ 49 U.S.C. 44811(b)(2).

³¹ 49 U.S.C. 44811(b)(3).

³² 49 U.S.C. 44811(b)(4).

The Part 107 waiver process is cumbersome partly because of the need to gain approval for each waiver, so one of the main potential benefits for this rulemaking project should be to streamline these regulatory processes so as to foster innovation. Yet requiring operators under Subpart D to obtain permits that must be approved on a case-by-case basis, as in the Proposal, raises the question as to what the streamlining benefit would be in the first place. Indeed, given the prescriptive nature of the requirements proposed in Part 108, it is conceivable that any permit application process could prove more cumbersome under Part 108 than under Part 107, particularly if the approval process is manual.

This is particularly odd given that FAA has issued “thousands” of exemptions under 49 U.S.C. 44807.³³ Presumably, such a large number of waivers would give FAA a deep dataset into what they have permitted in the past, and what works well within those constraints. This should be sufficient for rules-based parameters, where operators have standards that they know ahead of time how to follow, as in traditional aviation. Requiring operators to seek permission for their equipment and operations each time, on a case-by-case basis, raises the question of how strong the benefits under this Proposed rule would be, particularly given that Congress itself contemplated an acceptance- as well as approval-based system.

In light of the flexibilities specifically granted by Congress, and the voluminous dataset that the FAA should already have from its previous and existing waivers, FAA should favor a rules-based approach centered around parameters, rather than a case-by-case approval process that provides unclear benefits, if any, over the existing Part 107 waiver scheme.

G. FAA Should Revise Subpart D to Allow BVLOS Operations to Continue Under Part 107, Particularly if FAA Includes Proposed Restrictions That Would Otherwise Prohibit Current UAS Operations

In Proposed Subpart D, the regulations governing Permitted Operations would require package delivery operations,³⁴ agricultural operations,³⁵ aerial and surveying operations,³⁶ and civic interest operations³⁷ to occur under the auspices of Part 108, in either Subpart D or E. These provisions, as written, would seem to foreclose the possibility of future BVLOS operations allowed through the Part 107 waiver program.

This would raise major questions as to what happens to operations currently permitted through Part 107 waivers, and what would happen when those waivers expire, which the Proposal does not even address. This is a particularly significant oversight given that FAA currently lists 665 such waivers as having been issued.³⁸ What would happen to these waivers if the Proposed language is adopted?

³³ 90 Fed Reg. at 38219.

³⁴ 90 Fed. Reg. at 38374 (providing requirements at § 108.440(a)).

³⁵ *Id.* (providing requirements at § 108.445(a)).

³⁶ *Id.* (providing requirements at § 108.450(a)).

³⁷ *Id.* (providing requirements at § 108.455(a)).

³⁸ Part 107 Waivers Issued, Fed. Aviation Admin. (accessed Sep. 30, 2025)

https://www.faa.gov/uas/commercial_operators/part_107_waivers/waivers_issued?saa_field_media_file=107.31

Particularly given how restrictive this Proposal is, in terms of requiring automation and in its manufacturing origin requirements, to name two major examples, many UAS operations currently permitted under Part 107 would probably not meet the criteria set forth Part 108, notwithstanding exemplary records of safety and economic contribution to their communities. As such, these provisions, without change, could actually have the effect of curtailing BVLOS UAS operations, ironically under the guise of bringing those operations under a new, transparent, and predictable framework.

Given the challenges in creating any new regulatory system from the beginning, the liberalizing approach that truly would foster innovation would be for FAA to continue to allow Part 107 waivers for BVLOS operations that continue to fall outside the regulatory scheme that FAA has envisaged, particularly if FAA insists on requiring permits or certifications for each operator as currently proposed. Any other approach reduces rather than expands the flexibility provided operators, along with their concomitant ability to innovate.

H. The Rules of Origin for UAS as Proposed in § 108.700 are Impractical and Undermine the Goals of the Authorizing Statute and of the Executive Order on Unleashing American Drone Dominance

The Proposal at § 108.700 would restrict eligibility for airworthiness acceptance to UAS made by manufacturers in the United States or a country that has a Bilateral Airworthiness Agreement with the United States addressing unmanned aircraft systems.³⁹ Yet the vast majority of UAS hardware (as opposed to software) manufacturers, including for UAS aircraft and components used in the United States, are not actually based in the United States. As a result, this provision would flout both the authorizing statute and the Executive Order on Unleashing American Drone Dominance (the Executive Order) by effectively prohibiting BVLOS UAS operations by imposing non-statutory requirements that very few companies could meet.

This Limitation is Impractical

Although the Proposal at § 108.700(b)(1)(ii) would theoretically expand the scope of the permitted UAS to manufacturers in countries with Bilateral Airworthiness Agreements with the United States,⁴⁰ this notional expansion is in fact meaningless. The language of the provision specifies that any such agreements must address UAS in some form, which arguably sounds sensible in the UAS context. However, given how innovative BVLOS UAS are, very few if any U.S. trade partners have bilateral airworthiness agreements with the United States that cover UAS. This is a particularly rigid limitation given that even among U.S. trade partners that have any bilateral airworthiness agreements with U.S., most of them will not even have major UAS manufacturers within their borders.

This sort of reciprocity agreement could make more sense in relatively established industries, yet in the context of an industry as cutting-edge as BVLOS UAS, where most U.S. trade partners do not even have regulatory schema allowing such operations in their own airspace yet, such agreements are not realistic. In the context of cutting-edge sectors, far from protecting American

³⁹ 90 Fed. Reg. at 38380.

⁴⁰ *Id.*

industry, this kind of limitation would instead have the effect of a *de facto* ban on the hardware necessary for the very innovation that this Proposal is intended to foster.

This Limitation Violates the Authorizing Statute and Undermines the Executive Order on Unleashing American Drone Dominance

As noted above,⁴¹ Congress has already statutorily defined both UA and UAS at 49 U.S.C. 44801. Moreover, nothing within the authorizing statute indicates that Congress intended for FAA to narrow the scope of the covered UAS beyond that which Congress has already defined. Given how reliant UAS hardware on manufacturers from foreign countries, restricting the Congressional definition in this way, without any signal or other authorization from Congress, would inappropriately undermine Congressional intent.

In addition, this aspect of the Proposal would undermine the Executive Order's emphasis on "industry-led innovation"⁴² by effectively banning the vast majority of UAS hardware available to U.S. industry. The Executive Order does contain other (non-statutory) policy goals that are arguably advanced by this proposed provision, namely advancing the domestic commercialization of UAS technologies at scale,⁴³ strengthening the domestic drone industrial base,⁴⁴ and promoting the export of American-manufactured UAS.⁴⁵ Yet notably, the Executive Order contains specific provisions on how to implement those goals, all of which are separate from the provisions on implementing the BVLOS regulations.

Thus, while Section 4 of the Executive Order deals with the BVLOS regulations, Sections 7, 8, and 9 establish how the Administration seeks to strengthen the domestic drone industrial base and promote the export of American-manufactured UAS. Notably, these sections do not refer to the upcoming BVLOS regulations. This is quite prudent, given that those separate strategies would do a far better job of advancing those goals than anything in the Proposal at hand. Indeed, shoehorning this Proposal to meet the goals of the other sections in the Executive Order undermines the effectiveness of the Proposed regulatory scheme here, without meaningfully contributing to those other goals in the first place.

In sum, restricting Part 108 of the proposed regulations to U.S. manufacturers, and the other parties in non-existent Bilateral Airworthiness Agreements as proposed, has the deleterious effect of violating the authorizing statute and of contradicting both the goals and the structure of the Executive Order that this Proposal is meant to help effectuate.

FAA Regulations are Ill-Equipped to Promote the U.S. Manufacture of UAS

Finally, to the extent that the Executive Order articulates trade priorities in terms of fostering American UAS, the FAA regulations are ill-suited to achieve those U.S. trade objectives. Such policy priorities require strategic direction, negotiations, and nimbleness that are not well-suited

⁴¹ *Supra*, n. 9, 10, and 16.

⁴² Exec. Order No. 14,307 at § 3(b).

⁴³ *Id.*

⁴⁴ *Id.* at § 3(c).

⁴⁵ *Id.*

for a stable and relatively static regulatory structure. Instead, such trade priorities are best addressed by the trade-focused agencies within the U.S. Government, such as, for example, the U.S. Department of Commerce (which includes the International Trade Administration), the Export-Import Bank, and the Office of the U.S. Trade Representative. Not coincidentally, the Executive Order recognizes this fact by delegating the responsibility of the industrial base- and export-focused provisions to such agencies,⁴⁶ even while leaving those priorities (and those other agencies) unmentioned in the section delegating the BVLOS responsibilities to FAA.⁴⁷

If FAA insists on keeping a limitation, perhaps for security reasons at the behest of TSA, any such rationales should be specifically identified, and the provision more narrowly tailored to such rationales. For example, excluding UAS manufactured in countries on the list of foreign adversaries maintained at 15 CFR 791.4 would advance security and geopolitical objectives in a more tailored way, while still fostering the use of BVLOS UAS for commercial and public safety purposes as envisioned. Citing these grounds, the American Security Drone Act of 2023, as incorporated into the National Defense Authorization Act for the Fiscal Year 2024 (FY24 NDAA),⁴⁸ prohibits General Services Administration (GSA) smartcards from being used to purchase covered UAS,⁴⁹ and pursuant to this law the Department of Defense has published a list of approved UAS from manufacturers in the United States and various friendly countries.⁵⁰ Such a tailored outcome would leave room for BVLOS UAS operations in the U.S. to thrive, whilst excluding UAS manufactured by U.S. adversaries such as China, and drawing a clearer connection between any such limitation and a comprehensible, reasonable policy objective.

Another superior, tailored way to safeguard U.S. economic and security interests, either instead of or in addition to prohibiting UAS hardware manufactured in U.S. adversary countries, would be at least eventually to require that the batteries and battery components of any BVLOS UAS in this part be manufactured in the United States. Batteries can be used for espionage purposes, but the U.S. already has the capabilities to manufacture batteries and battery components. The threat of the Chinese in particular using batteries for espionage purposes has been well-established by lawmakers,⁵¹ which is why the FY24 NDAA prohibits the use of Department of Defense funds to procure batteries produced by certain entities linked to espionage.⁵² Thus, requiring UAS batteries to be manufactured in the United States would not only support U.S. battery manufacturers, but would also help ensure that such UAS are not being used for espionage or other nefarious purposes.

There are companies in the U.S., such as Sparkz, which are currently making Lithium-ion batteries with a fully U.S.-based supply chain including the sourcing of the raw materials. A

⁴⁶ *Id.* at § 7 and 8.

⁴⁷ *Id.* at § 4.

⁴⁸ Nat'l Defense Authorization Act for FY 2024, Pub. L. 118-31, 41 U.S.C. 3901 (enacted December 22, 2023).

⁴⁹ Implemented in the Federal Acquisition Regulations at 48 CFR 40.202.

⁵⁰ The Blue UAS Cleared List is available online at <https://www.diu.mil/blue-uas-cleared-list>

⁵¹ House of Representatives Select Committee on the CCP (June 7, 2024). Moolenaar, Lawmakers Introduce Bill to Ban DHS from Procuring Batteries Manufactured by Six PRC-Aligned Companies. <https://selectcommitteeontheccp.house.gov/media/press-releases/moolenaar-lawmakers-introduce-bill-ban-dhs-procuring-batteries-manufactured>

⁵² *Supra*, n. 48, Pub L. 118-31, 137 Stat. 180-81 (Sec. 154, Prohibition of Availability of Funds for Procurement of Certain Batteries).

possible approach for accelerating domestic content with a requirement of >85% domestic content by 2027 would involve a cross-agency collaboration (FAA, DOD, and DOE) and allow for a seamless transition to U.S.-made batteries. Ideally, this cross-agency collaborative effort working with the private sector (drone companies and battery manufacturers) would set up a phased approach whereby field pilots of drones and U.S.-made batteries satisfying the domestic content requirements are conducted with an accelerated timeline with well-defined milestones and deliverables. This would then lead to the U.S. production of batteries for both commercial and defense-related drones.

Conclusion

FAA's Proposal represents welcome, crucial progress toward scaled, safe BVLOS UAS operations by providing a clear and predictable regulatory pathway that ensures safety for both the manned flights already in the National Air Space, and for the general public on the ground below.

However, as discussed above there is room to improve FAA's Proposal and to align it more closely with the language and goals of the authorizing statute and Executive Order, particularly in terms of promoting our country's competitive edge in this important, emerging space. FAA has already shown its ability to work with industry in fostering growth and innovation in BVLOS through the current system of waivers and exemptions, but this system is by nature unsustainable, creates complexity and delays, fosters uncertainty, and creates an uneven playing field, all of which stifles innovation, even as technological developments make UAS operations simpler than ever before.

A Final Rule that properly implements the requirements set forth by Congress, and the policy goals advanced in the Executive Order, would unlock the benefits of BVLOS operations across the country, especially in the areas of public safety, logistics, medical deliveries, and agricultural operations. With excitement for the innovation and prosperity that will likely result, I appreciate the opportunity to highlight these areas for constructive feedback, and look forward to FAA's promulgation of the Final Rule.

Respectfully yours,

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⁵³ These comments are submitted in my personal capacity and do not represent the views of The Heritage Foundation or Sparkz Inc.