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United States Department of Transportation
Docket Operations
1200 New Jersey Avenue, SE
Room W12-140, West Building Ground Floor
Washington, DC 20590-0001

Re: Comments in Response to "Normalizing Unmanned Aircraft Systems Beyond Visual Line of Sight Operations" [Docket No. FAA-2025-1908]

To Whom It May Concern:

The Commercial Drone Alliance (CDA) appreciates the opportunity to submit comments in response to the Federal Aviation Administration (FAA) and Transportation Security Administration (TSA) part 108/146 notice of proposed rulemaking (NPRM) titled "Normalizing Unmanned Aircraft Systems Beyond Visual Line of Sight Operations" (BVLOS).[1]

While the CDA appreciates the FAA's and TSA's work to move the rulemaking forward, the draft does not align with the Administration's intention as evidenced by the White House's recent Executive Order "Unleashing American Drone Dominance" (Drone Dominance EO) to bolster the domestic industrial base while promoting American leadership in drone innovation.[2] In particular, the CDA believes that the TSA portion of the rule must be revoked and rewritten after TSA engagement with the commercial drone industry. The CDA also proposes an industry-consensus framework to address portions of the operating and airworthiness requirements, which were originally drafted several years ago and must be updated to enable the safe and successful drone operations happening today while providing a foundation for future beneficial commercial drone operations.

[1] Normalizing Unmanned Aircraft Systems Beyond Visual Line of Sight Operations, 90 Fed. Reg. 38212 (proposed Aug. 7, 2025) [hereinafter BVLOS NPRM].

[2] *See* Exec. Order. No. 14307, 90 Fed. Reg. 24727 (June 6, 2025).

I. About the Commercial Drone Alliance

The CDA is the leading U.S. non-profit organization focused on integration of commercial drones into the national airspace system (NAS). The CDA consists of key leaders in the commercial drone industry. The CDA actively participates in regulatory and policy efforts to facilitate the safe and secure development and expansion of domestic commercial drone operations. The CDA collaborates with all levels of government on policies for industry growth and educates on the safe and responsible use of commercial drones to achieve economic benefits and humanitarian gains. We bring together commercial drone end-users, manufacturers, service providers, drone security companies, and vertical markets including oil and gas, precision agriculture, construction, security, communications technology, infrastructure, newsgathering, filmmaking, package delivery and logistics, and more.[3]

For many years, the CDA has worked with the federal government and other relevant stakeholders to promote an appropriately tailored, risk-based and performance-based BVLOS rulemaking. The CDA helped to lead the FAA's BVLOS Aviation Rulemaking Committee, served on the FAA's Aviation Rulemaking Advisory Committee, participated in BVLOS listening sessions with the FAA, and provided formal comments to several Department of Transportation (DOT) and FAA agency requests for information and feedback on BVLOS unmanned aircraft system (UAS) operations. Many of our members have worked closely with FAA stakeholders on waivers, exemptions and other advanced approvals which enable them to operate safely BVLOS today.

In developing these comments, the CDA engaged with thousands of stakeholders across the industry, including our more than fifty members as well as other relevant stakeholders. We hosted many hours of meetings with our membership and other advocacy groups. We hosted the BVLOS Stakeholder Summit on September 8, 2025, with two hundred industry leaders, bringing together the broader community with strong interest in the rulemaking to discuss what the regulatory proposal would mean for them. Topics of particular interest included how the proposal would affect companies of all sizes, including small businesses, and the security provisions outlined in the proposal.

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[3] Learn more at https://www.commercialdronealliance.org. Board members include: Amazon Prime Air, Choctaw Nation of Oklahoma, DoorDash, Florida Power & Light, Hidden Level, Honeywell, NUAIR, Ondas, Percepto Robotics, Skydio, SkySafe, Southern Company, uAvionix, Wing, and Zipline International, Inc. General members include: Aerolane, Airspace Link, Inc., American Fuel & Petrochemical Manufacturers (AFPM), ANRA Technologies, Ascent AeroSystems, AT&T, Aura Network Systems, Inc., AX Enterprises, Brinc Drones, Inc., Dedrone by Axon, DEXA, Dominion Energy, Drone Service Providers Alliance, DRONERESPONDERS, Edison Electric Institute (EEI), End State Solutions LLC, Flock Safety, Flying Lion, Inc., GroWings Robotx, Kelly Hills Unmanned Systems, Lumenier, Matternet, Merlin Labs, Mid Atlantic Aviation Partnership (MAAP), Mitsubishi Electric Innovation Center, New York Power Authority, Pilot Institute, Pyka, Inc., Qualcomm Incorporated, Safe Pro Group, Inc. Sustainable Skylines, Syracuse Regional Airport Authority, USI, Verge Aero, Virginia Innovation Partnership Corporation (VIPC), Wingtra, and Xelevate Solutions.

II. Need For a BVLOS Rule

Tailored correctly, a BVLOS rule will enable the domestic drone industry to benefit the American people while promoting safety, enhancing efficiencies and ensuring American global leadership in advanced aviation. Commercial drones are improving public safety and emergency response, strengthening infrastructure resilience, saving taxpayer dollars, strengthening supply chain and distribution logistics, and securing our borders. Today's regulations have enabled the industry to grow to its current state. However, existing regulatory requirements remain ill-suited to ensuring these proven safe operations can continue at increased scale, preventing the commercial market from reaching its full potential and unlocking significant investments into the United States' commercial drone sector. The ability to operate UAS BVLOS by rule is critical to scale and super-charge drone benefits, including improved efficiency in critical infrastructure inspections, agricultural operations, public safety, delivery of retail and life-saving goods, and groundbreaking research and development in advanced aviation. The CDA therefore strongly supports performance-based regulations intended to provide a predictable and clear pathway to safe, routine, and scalable UAS BVLOS operations.

The White House recognized this dynamic in its recent Drone Dominance EO, declaring it the policy of the United States to ensure continued American leadership in the development, commercialization, and export of UAS by "accelerating the safe integration of UAS into the National Airspace System through timely, risk-based rulemaking that enables routine advanced operations."[4] In particular, the EO mandated the issuance of a proposed rule enabling routine BVLOS operations for UAS for commercial and public safety purposes in a deliberate and timely manner.

III. First Principles

In this comment, the CDA discusses the implications of this NPRM on our members, specifically UAS operators, manufacturers, data service providers, and vertical market end users, as well as on everyday Americans across the country. In providing our comments, CDA was guided by several first principles:

(1) **Account for Compounding Benefits.** The modernization of commercial drone regulations will provide a clear avenue for growth in U.S. advanced aviation programs and domestic manufacturing, and strengthen the broader economy by improving safety, reliability and efficiency across the energy, logistics and communications sectors and emergency response, benefiting every corner of American society. The costs of the BVLOS rule must be well articulated and accounted for and appropriately compared to the benefits of the rule and the high costs of over-regulation.

(2) **Provide a Foundation for Growth.** A successful rule will serve two purposes—enable the variety of operations taking place safely today and

[4] *See* Exec. Order. No. 14307, 90 Fed. Reg. 24727 (June 6, 2025).

provide a framework for industry growth. Based on this principle, we will offer insights and data on current commercial UAS operations and provide suggestions for amending this proposal to ensure the final rules from FAA and TSA provide for both uninterrupted services being provided safely today, as well as a foundation on which to build for future operations.

(3) Balance Risk in a Performance-Based Way. Create a technology-aware, flexible, and performance-based framework based on industry consensus standards to balance air and ground risk. UAS operators have employed a variety of effective methods for reducing operational risk through waivers and exemptions. The rule must preserve the ability for manufacturers, operators, and regulators to work collaboratively on reducing risk through innovative solutions and technological progress. A performance-based rule will adapt to the rapid evolution of UAS technology, and the ability to accommodate new technologies will reduce the need for exemptions.

(4) Reflect the Unique Nature of the Commercial Drone Industry and Technology. The rule must reflect the unique nature of the commercial drone industry. This is an industry in which the United States can lead globally and one which differs in key ways from other industries, including legacy aviation. The FAA acknowledges that drone operations are at the very low end of the safety continuum, given there are no humans onboard, and that they are conducted with technology that is frequently updated. Rapid iteration allows industry to develop, deploy and validate new technologies much more quickly than legacy aviation. Industry's progress over the last five years in particular shows that the industry can continue to innovate while maintaining safety and building public acceptance. It is critical that the final rule accurately reflects the diversity of real-world operations and the business realities of the commercial drone industry in order to unleash opportunities for its future enhancement.

(5) Promote Modernization of the Airspace. The rule must incentivize overall NAS safety within a deregulatory construct that recognizes and enables safe, highly autonomous operations at scale to unlock the societal and economic benefits of the low altitude economy. This will ensure the United States remains a global leader in aviation technologies.

(6) The BVLOS Rule is about Careful, Compliant Commercial Operations–Not Criminals. The commercial drone industry takes security seriously. All technology can be used for good and for bad, and drones are no different. The federal government's role is to enable the good, while preventing the bad. The BVLOS rulemaking is about enabling the good. Preventing the bad is also important, and the CDA has been a strong supporter of common-sense drone

security measures that can prevent criminal activity and which exist outside the scope of this rulemaking.[5]

(7) Get the Rule Right, Not Just Fast. While timeline is key and we certainly want to see a final rule issued expeditiously, the need for both FAA and TSA to get their rules right, not just fast, is of paramount importance. A bureaucratic ruleset ill-suited to the commercial drone industry will harm rather than help UAS integration and contradict the intent of the Drone Dominance EO. To this end, we encourage the FAA to continue engaging with industry stakeholders, ideally through listening sessions, to facilitate the changes necessary to get the final rule right.

IV. FAA Proposal: Areas of Support

The CDA appreciates and supports certain facets of the NPRM. In particular:

(1) Safety Principles and Protections

The CDA and its members welcome the protections for UAS operations personnel and the Aviation Safety Reporting System (ASRS) reports contained in §§108.15 and 108.25 respectively. These are necessary extensions of historically successful aspects of aviation safety culture in the United States.

(2) More Efficient Use of Airspace

In line with CDA support for modernization of the NAS, we appreciate that the NPRM supports safe and efficient airspace operations through enabling industry-led UAS Traffic Management (UTM) in part 146, modernizing the outdated right-of-way rules (§108.195), and promoting cooperative conspicuity with right-sized electronic conspicuity rules (§§108.160 and 108.195). These concepts provide an effective means for facilitating situational awareness in the NAS and creating a more cooperative airspace paradigm. However, the proposed policy leaves critical safety gaps that must be closed to achieve the intended purpose. We will discuss this more fully below.

Additionally, certain definitions the FAA uses to frame the requirements for part 108 UAS operations appropriately reflect the industry's diversity, needs, and use cases. For instance, updating the terminology from "well clear" to "safe distance" is an improvement that enables UAS operators to tailor their Detect and Avoid (DAA) solutions to unique technology capabilities and operating

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[5] *See, e.g.*, *Designation - Restrict the Operation of Unmanned Aircraft in Close Proximity to a Fixed Site Facility, Office of Information and Regulatory Affairs*, Spring 2025 Unified Agenda of Regulatory and Deregulatory Actions, RIN 2120-AL33, available at https://www.reginfo.gov/public/do/eAgendaViewRule?pubId=202504&RIN=2120-AL33 (regulatory action which would implement Section 2209 of the FAA Extension, Safety, and Security Act of 2016 regarding UAS restrictions around eligible fixed site facilities).

environments. Such changes provide the flexibility and proportionality the American UAS industry needs to scale and grow effectively.

Further, by establishing a new certificate and authorization pathway for UTM, the FAA recognizes the importance of industry-provided digital services in enabling scalable, highly automated BVLOS operations. part 146 offers a flexible approach for codifying the success of the FAA UTM Operational Evaluation and industry's U.S. UTM Implementation governance structure.

(3) Organizational Responsibility Model

The CDA appreciates that the FAA recognizes and supports the UAS industry's ability to automate significant amounts of functionality by moving to a framework that emphasizes organizational responsibility over individual roles and responsibilities. This is a positive change that will enable the industry to continue to scale with automation. The proposal promotes efficiency by allowing for operator-defined training and streamlining personnel requirements, such as making reforms to medical verification and reducing training frequency (§108.315). The allowance for flexibility in fleet size for certified operators also will facilitate scaled UAS package delivery operations.

The adoption of a performance-based model for authorizing, training, and validating personnel, with ultimate responsibility imposed on the operating entity (Subpart C), better accounts for the level of automation in complex UAS operations, and the variety of personnel in different kinds of operations. For example, replacing the pilot in command position with an optional flight coordinator role is more reflective of organizational operating structures and allows for greater flexibility for the varied use cases and concept of operations within the UAS industry. Additionally, establishing an operator-defined training program and increasing the period between recurrent training to 24 months (§108.315) is a positive change. This approach also appropriately extends to other crew requirements, such as simplified drug and alcohol requirements (§108.325) and removing the requirement to hold a part 67 issued airman medical certificate (§108.320).

(4) Emphasis on Automation

The CDA welcomes the proposal's recognition and incorporation of automation by replacing traditional 'pilot' roles with a new optional flight coordinator (§108.310) and requirement of the use of a simplified user interaction (SUI) to optimize operations (§108.810). Breaking the mold of pilot-centric responsibilities within the existing regulatory framework is a critical element of enabling BVLOS operations that are truly scalable.

(5) Scalable Operating Models Through Permits and Certificates

Outlining pathways in §108.400 and §108.500 for permitted or certificated operations will give the procedural clarity and certainty that the commercial drone

industry needs to establish and scale operations effectively. Many provisions in these processes allow for flexibility, including an operator-defined training program, not imposing limits on fleet sizes for certificated operators, and providing a streamlined application process. However, we believe this framework can be further improved. Specific amendments to §108.400 are detailed below. Additionally, though our members agree with the intent and overarching tenets of 14 CFR part 5, we urge the FAA to accept a tailored Safety Management System (SMS) framework for the UAS industry.

(6) Airworthiness Acceptance Rather Than Certification

For years, the FAA tried to apply the traditional type certification (TC) process designed for legacy aircraft to UAS. This meant fitting a square peg (drones) into a round hole (regulation designed for legacy aviation). After millions of dollars of investment by industry into the 'Durability and Reliability' (D&R) process, and countless hours of work over the span of several years of work between companies and the agency, the FAA appropriately recognized that the TC process was ill-suited for UAS.

To the FAA's credit, the agency has now realized that declarative compliance is the correct, risk-appropriate approach for UAS. This realization is critical to the future growth and success of the UAS industry, and the NPRM takes a significant step forward by proposing an acceptance-based submission process for a declaration of compliance. Despite this notable progress, the proposal still includes many airworthiness design and test requirements from the TC process that are overly prescriptive in nature and do not adhere to the performance-based approach that the FAA is using today and to which the FAA aspires. We discuss these challenges in greater detail in Priorities 1 and 3 below.

Moreover, in line with CDA's support for a flexible, risk- and performance-based framework, the FAA's recognition of and support for industry standards properly enables the acknowledgment and acceptance of multiple solutions rather than prescribing a one-size-fits-all mandate. It is important to recognize that many existing consensus standards were developed without a clear regulatory framework. As a result, they are inconsistent in their scope, approach, and rigor, and they are not aligned with current FAA airworthiness or operational approvals, industry best practices, or the proposed part 108 rule. It will take time to adapt existing standards to align with part 108, as well as to develop new ones where they are needed. This is discussed further under Priority 1 below.

(7) Maintenance and Alterations

The CDA largely supports the FAA's proposals for maintenance and alterations, which take a beneficial approach to eliminating unnecessary requirements while providing a simplified means to ensure the aircraft and systems are functioning properly. For instance, removing part 43's mandate for certified maintainers and instead requiring qualified maintainers provides greater flexibility

while maintaining standards of quality. Similarly, the UAS industry has the opportunity to seek global alignment and tailor processes to their needs by not prescribing organization or program requirements for maintenance. This subpart also permits expanded reverse logistics options, supporting operators' business growth and efficiency.

V. Priority Areas for Targeted Change

The CDA and its members acknowledge the challenge of writing regulations to keep up with both rapidly advancing technology and an ever-evolving industry. To this end, the CDA offers five priority areas of suggested changes to the NPRM to ensure that the final rule works to promote the long-term safety and efficiency of the airspace, while allowing for industry advancement and scalability over the next decade and beyond.

(1) Priority 1: The rule must enable today's allowed operations and create a scalable framework for future operations

The operational and airworthiness requirements in part 108 as proposed reflect the FAA's policy mindset from several years ago—a metaphorical chalk-line snapped to baseline rule development. To its enormous credit, the FAA did not use this chalk-line as a barrier to advancing safe BVLOS operations in the interim; significant progress has been made through waivers and exemptions to advance both public safety and commercial drone operations over the last several years, including advancements made during this 60-day comment period.

As technology has continued to improve, positive developments in FAA approvals of BVLOS operations over the last several years, including in airspace typically considered more complex, include:

- Acceptance of maintaining airspace awareness, rather than direct visual line-of-sight of an unmanned aircraft, as an appropriate air risk mitigation for proximate operations;
- Recognition of the efficacy of ADS-B In as a risk-appropriate mitigation for operations in airspace where ADS-B Out is required;
- Leveraging operational shielding as sufficient air risk mitigation within 200 feet of both obstacles and ground terrain;
- Pivoting away from the challenged D&R TC process, mentioned above, to the current standard for safe operations and much more adaptable Criteria for Making 44807 Determinations (CMD) process; and
- Enabling increasing levels of automation to enhance safety and scale, reflected in significant increases in FAA-approved 1:n allowances and operational oversight conducted from remote operations centers.

The FAA need only point to the tens of thousands of hours of safe UAS BVLOS operations conducted using these policy advances as compelling evidence of its assessment that the BVLOS UAS operations the Agency has approved are inherently lower risk than operations carrying passengers and/or crew—neither a single fatality nor mid-air collision with a manned aircraft has been reported as a result of operations conducted in compliance with these approvals to date. The FAA is correct in positioning part 108 UAS operations at the lower end of the safety continuum, given that there are no humans onboard.

The CDA's suggested changes in this section focus on accomplishing three goals:

1. Ensuring the beneficial BVLOS operations allowed today through waivers and exemptions can continue under similar constraints within the construct of part 108;

2. Providing a path to more streamlined compliance with (for future operators) and transition to (for current operators) operations under part 108; and

3. Ensuring the rule remains flexible enough to enable future operational growth and industry expansion to meet societal demands and technological advancements.

The proposed solution set below has the benefit of simplifying many of the FAA's proposed operational requirements on operators while better accomplishing what the CDA believes that the FAA intended with this rule, which was to shift some of the risk burden from operators to manufacturers.

(i) Addressing Ground Risk

Many of the BVLOS operations enabled over the past several years, particularly those conducted under part 107 and part 91 waivers, included very limited or no assessment of the airworthiness of the aircraft, causing most risk mitigation to fall on the responsibility of the operator to be managed through operational mitigations. Some operations conducted under 44807 exemptions leverage the CMD process, but many do not. If balanced appropriately, the introduction of a standardized process for determining UAS airworthiness should result in more operational flexibility than is contained in today's operating approvals. This is the expected risk-based tradeoff of investing in more reliable aircraft and undergoing a higher degree of regulatory airworthiness validation and scrutiny.

Unfortunately, the proposal does not reflect this expectation. The agency proposes an ill-suited airworthiness acceptance process more properly applied to large-scale aircraft that carry passengers and large amounts of cargo, piloted by flight crew. The proposal appears to reflect much of the rigidity of the D&R TC process the FAA abandoned several years ago and applies it uniformly to nearly all aircraft proposed to operate under the rule—everything from <1 to 1,320 pounds. Further, the proposal then largely fails to consider this mitigation alongside the proposed operational requirements,

imposing (for example) population overflight limitations on operators who are flying airworthy aircraft.

The CDA urges the FAA to reconsider the fundamental misalignment of aircraft airworthiness and ground risk mitigations in the proposal and re-focus its efforts to mitigate ground risk on the airworthiness of the UAS. The CDA also urges the FAA to reconsider its one-size-fits-all approach to assessing airworthiness, especially in light of the operational data from many potential part 108 aircraft to date. This could be addressed through three targeted changes.

Change 1.1: Leverage the successes of the CMD process to increase flexibility and enable more rapid adoption of safety innovation in the Declaration of Compliance process

We strongly support the FAA's move away from issuing airworthiness certificates to accepting DOC to FAA-accepted means of compliance (MOC). Importantly, not every element of a UAS platform needs to be dictated through consensus standards. Since early 2023, the FAA has successfully leveraged the CMD process to great effect, enabling manufacturers to document and demonstrate how their UAS meets a minimum set of performance requirements, either through compliance with consensus standards or through other methods. The CMD assesses relevant attributes of the aircraft's design and reliability using performance-based criteria to arrive at an appropriate determination. Since the inception of the program, no aircraft that has been approved through CMD has caused a fatality, substantial injury, or major property damage. While the CDA understands that the FAA is looking for scalable solutions to determine and accept UAS airworthiness, the agency should start by building on a program that has achieved an excellent safety record while imposing a compliance burden that is appropriate and acceptable for UAS technology.

The CDA therefore encourages the FAA to consider methods to codify and implement the CMD criteria as the specific design and test criteria for UAS operated under part 108, with exceptions outlined below in Change 1.2. The prescriptive provisions contained in various subparagraphs of proposed subparts (g) and (h) would immediately render a significant portion of the drone industry non-compliant. This is not a condition where a 'grandfathering' period provides effective relief—the substantial nature of these changes would require re-design or substantial modification of existing aircraft and re-designing and re-starting test and evaluation programs from scratch. This is unacceptable for an industry that has proven to be the safest new entrant in aviation history, and for which no data exists that supports the need for such changes.

Instead, the FAA should continue to utilize the CMD process as a path to airworthiness acceptance until suitable standards are accepted by the FAA and adopted by industry. This would ensure that aircraft that have already gone through an FAA review retain the ability to continue operations without needing retesting or redesign. It could also serve as an enabling pathway for aircraft acceptance for part 108 operations while standards are under development to become a MOC and during any allowable transition to the use of those MOCs. As a more scalable solution for the agency longer-term, the

FAA could also encourage consensus standards bodies to adapt the CMD process into a consensus standard. Ultimately, the development of multiple MOCs, especially by consensus standards bodies, takes time and resources. The UAS industry is broadly willing and able to make these investments, but not at the cost of ceasing services or operations disruptions.

As such, industry consensus standards should be one path, but not the only path, for developing means of compliance (MOCs). This restriction may delay the adoption of safer, more current methods when consensus standards lag technology. Any person, including but not limited to an industry consensus standards organization, manufacturer, operator, or research institution, should be permitted to submit an alternative MOC (AMOC) that meets or exceeds minimum requirements for FAA acceptance. Multiple compliance paths can accelerate integration, advance innovation, reduce cost and time-to-market, and strengthen U.S. commercial and regulatory leadership without compromising safety.

The CDA acknowledges the FAA's long-term expectation for an airworthiness acceptance framework that relies on compliance with consensus standards as a more scalable and risk-appropriate approach than traditional aircraft certification. However, it is critical that the regulatory framework remain adaptable and not prohibit alternative approaches as the industry continues to develop, and the CDA accepts that the tradeoff for maintaining those alternatives may be less predictable approval timelines as agency resources allow. Another way to achieve flexibility while reducing processing times and improving predictability in approvals is for a new industry consensus standard that provides at least one way to meet each of the regulatory requirements in Subparts G and H. Developing this standard will hinge on industry's and FAA's joint active participation to ensure that manufacturers across the industry can comply with it while meeting FAA's expectations.

Ultimately, the above recommendations must be combined with substantial changes to the design requirements proposed in Subpart H, many of which have been carried over from part 21 or light sport aircraft (LSA) requirements and are ill-suited to aircraft 1) with no humans onboard and 2) weighing far less than LSA. The design requirements in the CMD process are a much better model for minimum performance standards, imposing a more appropriate level of airworthiness for where these aircraft are situated on the FAA's safety continuum.[6]

Additional changes to requirements in subpart H are discussed in more detail under Priority 2 in this comment below, while proposed regulatory changes to §§108.105(b) and 108.935 are offered below to support CDA's proposal to leverage CMD lessons learned as part of part 108 by aligning required flight hours with population density

[6] The CMD documentation declares its intent is to support a "safety case involving UAS weighing under 110 lbs. (MGTW) conducting small package delivery, or up to 1,320 lbs. (MGTW) in other cases, involving only transient operations over people." *See* Fed. Aviation Admin, *Criteria for Making 44807 Determinations*, Revision Mar. 21, 2024, Ver 1.0.

overflight. The CDA believes this is a far more appropriate method of addressing ground risk than, for example, placing limitations on types of operation.

In addition to the flight hour changes, CDA also strongly urges the FAA remove §108.935(b)(3) and (b)(5). Non-conformance to UTM requirements (§108.935(b)(3)) is not a factor in determining aircraft reliability. This is an interoperability consideration between an operator and an ADSP and should not be considered as part of the manufacturing process. Classifying unplanned landings as a hazard (§108.935(b)(5)) is not representative of the range of effective safety mitigations to adverse events, as unplanned landings can be a safe and responsible contingency for drones. This paragraph inappropriately categorizes safe and predictable landings that are currently FAA-approved mitigations as "failures."

The CDA further urges the FAA to reconsider requirements in §§108.930 and 108.935 that require developmental and function and reliability flight testing to be conducted in operationally representative environments. This is wholly infeasible given the limitations on population density that should be reasonably imposed on flight testing. These requirements could be made more performance-based by requiring manufacturers to demonstrate certain performance benchmarks, as determined by the Administrator. Validated simulation should be an acceptable means for demonstrating compliance to subpart H requirements both for baseline products and changes, including function and reliability (F&R) testing. This allows manufacturers flexibility and cost-effective means to verify safe operation.

Proposed alternative text to 14 CFR 108.105(b): "Unmanned Aircraft used under this part must: (1) have received an airworthiness acceptance in accordance with subparts G and H of this part; (2) be operating under a flight test permit pursuant to 108.470; or (3) have received an acceptable FAA Criteria for Making 44807 Determination."

Proposed alternative text to § 108.935 Function and reliability testing.

(a) Each manufacturer must perform function and reliability testing for each unmanned aircraft system make, model and configuration. Any simulations used for testing must be validated using an FAA accepted means of compliance.

(b) Except as provided for in §108.935(c), the make, model, and configuration of each unmanned aircraft system must perform at least 120 flight hours without experiencing any failure leading to—

(1) Loss of flight,

(2) Loss of control, or

~~(3) Non-conformance with unmanned aircraft system traffic management,~~

(4) Loss of safe distance.

~~(5) Results in an unplanned landing.~~

(c) The make, model, and configuration of each unmanned aircraft system intended for operations over Category 3 areas defined in § 108.185(c)(3) must perform at least 360 flight hours without experiencing any failure leading to any of the outcomes described in § 108.935(b)(1) through § 108.935(b)(3).

~~(d) Testing must be conducted in an operationally representative environment, of §§ 108.400 and 108.500, as designated by the manufacturer.~~

Change 1.2: Allow for a simpler, more streamlined path in the Declaration of Compliance process for approving small UAS currently flying BVLOS operations

As of the writing of this comment, the FAA's waiver database shows up to 655 currently active waivers to 14 CFR §107.31 to fly BVLOS. Many of these are held by public safety agencies, construction and utility companies, research universities, companies conducting R&D, and individual small business operators. It is critical that these operators have a clear glideslope for future operations. Part of this solution we discuss more in proposed change 1.8 below, but the FAA must also provide a clear path for transitioning those operations that will continue under part 108. The biggest considerations for this transition are the approval of existing aircraft fleets and the associated operational approvals. The latter is discussed in more detail under Change 1.7 below.

For aircraft flying under waivers to 14 CFR §107.31 using effective technical means for yielding to cooperative traffic and managing ground risk through limited transfer of kinetic energy, the FAA should allow for declarative compliance to an appropriate set of minimum capabilities that is aligned with the conditions and limitations of existing approvals. This is in keeping with the safety underpinnings of both part 107 subpart D (where ground risk is mitigated by reducing the severity of aircraft failure) and part 108 (where ground risk is mitigated by reducing the probability of aircraft failure). The minimum capabilities could be established either as a subset to the subpart H criteria, or through non-application of specific criteria in subpart H for certain small UAS. Specifically, compliance with the following requirements should not apply to small UAS: §108.840(b), §108.845(c), and §108.935(b) and (c) if part 107 subpart D is met.

Enabling a pathway for current operations and aircraft would have two significant benefits. First, it would reduce the cost of the final rule by enabling continued operations with existing UAS fleets, precluding the need for replacements for operators and driving down overall manufacturing costs. Second, it would enable faster and smoother transition to operations under part 108, achieving the efficiency benefits of the new rule while still accounting for continuity of existing operations already approved by the FAA.

Proposed alternative text to 108.800 General.

(a) Purpose. This subpart prescribes design and performance standards for airworthiness acceptance of unmanned aircraft systems under this part.

(b) Eligibility. To be eligible for airworthiness acceptance, an unmanned aircraft system must—

a. Meet the requirements of subpart G;

b. Meet the requirements of this subpart, unless as provided in subparagraph (c)

c. Not be an airship; and

d. Not be designed to allow for any person on board during operations.

(c) Small UAS Criteria. Small UAS are exempt from the following criteria in subpart H—

a. 108.840(b)

b. 108.845(c)

c. 108.935 (b) and (c) if they meet the requirements of 14 CFR part 107 subpart D[7]

Change 1.3: Adjust §108.185 Operations over People operating categories to better account for airworthy aircraft, simplify compliance, and enable operators to leverage proven mitigations

The requirements in §108.185(c) combined with the limitations on permitted operations in Subpart D create unrealistic operating limitations that would prohibit many BVLOS operations taking place safely today without the additional elements the proposal would require to earn certificates, described in more detail in proposed Change 1.7 below. This can be remedied with some targeted changes to §108.185 in addition to the proposed changes contained in Change 1.7.

As a foundational matter, as previously stated, the application of a standardized process for determining UAS airworthiness should result in more operational flexibility than is contained in today's operating approvals. The general requirements in §108.185 fail to account for widely used and proven methods of mitigating ground risk more generally. To this end, the CDA recommends the FAA recognize an "Non-populated Area Category" in this subsection, which would leverage the conditions and limitations used in many waivers and exemptions today by allowing for an operating area to be contained

[7] Reference to CDA proposed change 1.1

over areas which are generally inaccessible or where members of the public generally are not expected to be, such as industrial facilities, power plants, critical infrastructure easements and right of ways, private property, or farm fields—notwithstanding the overall population density of the broader area. This should be defined in a performance-based way so as to allow operators maximum flexibility. Combined with airworthiness requirements under this rule, this designation should appropriately afford significant allowances for many BVLOS operations conducted today while providing more control for ground risk than currently required in most FAA approvals.

The CDA also strongly recommends removing the requirement for unmanned aircraft to detect and avoid non-cooperative aircraft from §108.185(d)(5)(ii). This requirement inappropriately applies ground population as a proxy variable to address air risk, and no collision data exists to support this approach. Allowing non-cooperative aircraft to overfly densely populated areas under 500 feet above ground level (AGL) introduces significant risk to the NAS and public more generally, besides being inconsistent with minimum safe altitude requirements in §91.119. Additionally, the expectation for unequipped manned aircraft to maintain constant awareness and knowledge of which categories of population they are overflying is unrealistic and impractical since these frequently shift. Provided the FAA eliminates requirement for UA to detect non-cooperative aircraft, the FAA should remove category 5 as this is the only meaningful delineation between categories 4 and 5. Removal of this category simplifies the overall framework and improves safety by removing ambiguity regarding right of way. This recommendation is further explained below under Change 1.4.

Additionally, the standoff/buffer requirements for all categories are overly conservative for how UAS operate. The CDA recommends reducing the standoff distances to no greater than 500 feet. This would provide more than ample separation from populated areas to address any perceived risk, as well as better focus the use of UA deconfliction services over populated areas as the FAA intends.

The outright prohibition on using a C2 link using 47 CFR part 15 radio frequency is overly prescriptive and obviates other alternative approaches to mitigating interference risk already used successfully today. Many small UAS models operate on ISM bands and would not be able to comply with this requirement, leading to the discontinuation of many widely used systems with proven safety records. As an alternative, use of ISM should be permitted when additional mitigations to control for interference risk are utilized—such as confirmation of adequate link performance through site survey, use of multiple/redundant links (unlicensed ISM combined with licensed cellular and point-to-point ISM), or incorporation of a high level of onboard automation so that the UA can continue its mission in the event of C2 loss. The CDA further encourages the FCC to finalize 47 CFR part 88 in order to provide UAS operators more options for mitigating interference risks as operational volumes increase.

The above proposed changes would be accommodated by the following regulatory text:

Alternative Text to §108.185 Operations over people.

(a) *Prohibition*. No operator may operate an unmanned aircraft under this part over people except in accordance with the requirements of this section, unless otherwise authorized by the Administrator.

(b) *Open-Air Assemblies*. No operator may conduct sustained flight over open-air assemblies of persons with an unmanned aircraft under this part except in accordance with a *manner* found acceptable to the Administrator.

(c) *Operating categories*. The requirements under this section depend on the highest category of population density over which an operation is taking place. *Categories* 1 through 3 are calculated using the appropriate day or night data from Oak Ridge National Laboratory's LandScan USA population distribution data as of August 1st of 2025 determined as follows:

(1) Category 1: Farther than 500 feet from a cell of 25 people or higher.

(2) Category 2: Within 500 feet of a cell of 25 people or higher, and not within a Category 3 area.

(3) Category 3: Within 500 feet of a cell of 100 people or higher.

(d) *Operating requirements.* All operations over people must avoid operating where such operations may cause undue hazard to people on the ground. In addition, the following requirements apply:

(1) Category 1: Operations must have an acceptable means of mitigating risks associated with interference if using a command and control link that utilizes radio frequency devices operating in accordance with 47 CFR part 15.

(2) Category 2: Operators must:

(i) Meet the requirements of Category 1 operations; and

(ii) Conduct the operation using an approved method for interoperable deconfliction in accordance with the requirements of § 108.190.

(3) Category 3: Operators must:

(i) Meet the requirements of Category 1 and 2 operations; and

(ii) Use an aircraft that meets the function and reliability testing requirements of § 108.935(c).[8]

(e) *Flight in unpopulated areas*. Notwithstanding the requirements in (d), operations are permitted over unpopulated areas, which include:

(1) areas that are restricted to public access or inaccessible to the public;

(2) land areas under or in immediate proximity to infrastructure easements, rights-of-way, oil fields, and other structures or infrastructure where members of the general public are not expected to generally traverse; or

(3) privately owned land over which the landowner has allowed operations, such as agricultural land or other controlled access property.

(ii) Addressing Air Risk

The UAS industry employs an increasing variety of effective methods for mitigating aircraft-to-aircraft collision risk in active BVLOS operations today, and the FAA, to its credit, has accepted them. However, as operational volumes increase and technology advances, it is critical for the FAA to continually re-evaluate and incentivize the best solution set for deconflicting aircraft in flight. In light of the NAS modernization efforts currently, the CDA believes that now is the optimal time for an overarching reconsideration of how to best manage air risk where positive air traffic control services are not being provided. It has been over 15 years since the last substantial NAS-wide rulemaking effort considered this problem. In that time technology has advanced significantly. The FAA takes critical yet incomplete steps in its proposal to appropriately assure aircraft deconfliction. Below are the CDA's proposed changes to advance the FAA's NAS modernization and truly unlock a safe scalable low altitude airspace.

i. Manned to Unmanned Deconfliction

Since its inception, the CDA has promoted the continuing legacy of American aviation in driving technological progress and economic growth. The United States has long been a global leader in the skies. To maintain this position of prominence, it is imperative that the United States government and the aviation community at large recognize the seismic shifts in technological advancement that are underway globally, including for aviation. Automation and machine-learning are being driven by advances in chip and battery technology happening at lightning speeds compared to traditional aviation timelines. The low altitude airspace is increasingly becoming a shared airspace among general and public safety aviation, commercial drones, and recreational aviators

[8] Reference to CDA proposed change 1.1.

of all kinds, some of whom are currently unequipped with ADS-B and are effectively invisible.

The proposed rule takes an important step forward in advancing modernization by creating a path for many traditional aircraft to use internationally recognized electronic conspicuity devices that broadcast on Universal Access Transceiver/978 MHz. FAA equipage trends show that 978 MHz usage is on the decline and therefore remains under-utilized relative to 1090 MHz, providing practical flexibility for expanded use.[9] Use of traditional ADS-B Out transmissions that comply with 91 CFR 91.227 or a UAT electronic conspicuity (EC) device are both acceptable and reasonable communication methods for manned aircraft, including those such as hot air balloons that lack electronic systems, to retain right-of-way over unmanned aircraft. Drones, in turn, are required to universally equip with both Broadcast Remote ID per part 89, as well as a method of receiving both ADS-B on 1090 MHz and UAT transmissions.

These are critical aspects of the proposed rule that promote safety and parity across the aviation industry. Both must be retained and expanded. Over the last decade, multiple studies have repeatedly highlighted that broad adoption of ADS-B technology would vastly improve situational awareness in our NAS. One study, highlighted by the Aircraft Owners and Pilots Association (AOPA) in 2019, found that ADS-B use could reduce general aviation (GA) and air taxi accident rates by nearly 50% and fatality rates by almost 90%.[10] The CDA and its members believe the FAA has brokered an appropriate compromise between concerns from the GA community about ADS-B mandates and enabling increased visibility, and continued privacy, for this community of airspace users in § 108.195. However, the FAA must fully lean into this solution and create a consistent set of right-of-way rules for low altitude airspace users that both promotes safety and simplifies compliance.

Change 1.4: Modify right-of-way rules in §108.195 and §91.113 to create a consistent rule set below 500 feet, increasing aviation safety and simplifying compliance

The proposed rule gives UAS operating under part 108 right-of-way over non-cooperative aircraft below 400 except when operating over Category 5 population density areas and in Class B or C airspace, and correspondingly requires UAS to be equipped with non-cooperative DAA technology in these circumstances. As proposed, this requirement is not supported by safety data and unworkable for both manned and unmanned aircraft. To date, operators have collectively conducted tens of thousands of UAS flights using ADS-B as the sole deconfliction method with manned aircraft over densely populated areas and in controlled airspace. Regulations dictate that all aircraft must be broadcasting ADS-B in the areas where this rule implies that ADS-B In is not a

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[9] *See* Fed. Aviation Admin, *Current Equipage Levels* (July 31, 2025), https://www.faa.gov/air_traffic/technology/equipadsb/installation/current_equipage_levels.

[10] Daniel Howell and Jennifer King, *Measured Impact of ADS-B In Applications on General Aviation and Air Taxi Accident Rates* 7 (2019), https://ieeexplore.ieee.org/document/9081643.

sufficient mitigation. Additionally, it is impractical to expect manned aviators to be able to comply with potential variations in right-of-way rules mid-flight.

Accordingly, the CDA strongly urges the FAA remove the requirement in §108.180(b) for unmanned aircraft operated in Class B or C airspace to have a means to detect and avoid non-cooperative aircraft. Instead, the FAA should 1) apply updated right-of-way changes to be consistent across all airspace away from heliports and airport runways regardless of the class of airspace or population density being overflown, 2) require manned aircraft operating below 500 feet to be fully conspicuous through the use of ADS-B or other electronic conspicuity (EC) devices, and 3) require UAS to give way to ALL conspicuous manned air traffic by a safe distance. The FAA should also review and update its guidance on authorizing deviations to equipage requirements under §91.225(d)—authorizations for unequipped aircraft, civilian or military, into airspace where all aircraft are expected to be cooperative should be reserved for safety emergencies only and not a routine practice. These recommendations are grounded in the inherent acknowledgement that unmanned aircraft operators want to avoid manned aircraft, but that they must have a digitized method of knowing where manned aircraft are in order to do so.

The CDA strongly urges the FAA to adopt a performance-based specification for approving EC devices in furtherance of this rule, supported by approval and usage guidance contained in an AC or non-operational safety-enhancing equipment approval, rather than relying on a Technical Standard Order (TSO).

Together, these changes would increase the overall safety of the NAS by increasing cooperation between manned and unmanned traffic, as well as increasing low altitude conspicuity between manned aircraft in the spirit of multiple NTSB recommendations spanning across the last two decades. EC technology is an internationally recognized safety-enhancing option for all aircraft, including those without electric systems or on discrete or secure missions where anonymity is essential.[11] The costs of being conspicuous for manned aircraft have never been lower, with devices as low as 700 USD,[12] which is less than the cost for most drones to equip with ADS-B In receivers, let alone the cost to equip with onboard non-cooperative DAA or leverage ground-based detection equipment, which can cost tens or even hundreds of thousands of dollars. Based on current available technologies, several CDA members report that ground-based radar coverage to meet the non-cooperative DAA requirements under this rule could cost commercial drone operators anywhere from 1,000 to 30,000 USD per square mile of coverage. Estimates are highly variable depending on coverage area

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[11] *See generally* Fed. Aviation Admin., *Final Report Ground Assessment of Electronic Conspicuity Devices* (Sep. 5, 2024), https://uavionix.com/wp-content/uploads/2025/06/Electronic-Conspicuity-Final-Report-v9.0-Dec-16-2024-signatures_ssh_ss.pdf (assessing EC that may be used by General Aviation aircraft to increase airspace transparency).

[12] *See, e.g.*, uAvionix skyEcho 2 Portable ADS-B Transceiver, Air Team, https://www.airteam.shop/p/skyecho-2 (last visited Oct. 1., 2025) (portable ADS-B transceiver retailing for $640.60).

shape, interference considerations, and geographic topography, among other things, in addition to variations between the cost of different types of technology, which can change over time.

These changes are also supported by the operational data amassed by unmanned aircraft operations to date. The FAA has data from both public safety and package delivery operations in densely populated areas demonstrating the high number of operations that have been conducted without incident in controlled airspace using ADS-B in as a singular mitigation strategy. While some operators have and will continue to deploy DAA capabilities as form of risk mitigation, and the FAA should not prohibit the use of such technology as an optional safety-enhancing technology, the ability to detect non-cooperative aircraft is not viewed by most of our members as a scalable, cost-effective, or necessary requirement if EC is required below 500 feet.

These changes would also align with the overarching principles of increasing airspace safety, modernizing the NAS for future scalability and increased automation, and reducing regulatory compliance costs. The active general aviation fleet is expected to increase from 214,222 aircraft to 238,350 by 2045—an 11% increase over the next two decades.[13] By contrast, the FAA estimates that the commercial drone fleet will increase by 4-5% annually for the foreseeable future, stating "it is extremely difficult to put a floor on the growth of the commercial small drone sector due to its composition…and the varying business opportunities and growth paths."[14] The FAA's Forecast also acknowledges that more predictable BVLOS rules will likely result in continued growth. This makes the regulatory impact analysis for equipping the commercial UAS fleet with *both* ADS-B In and non-cooperative DAA substantially higher than the cost of equipping the *entire* unequipped manned fleet with EC devices—estimates range between USD 20-50 million based on an assumed unequipped fleet size of between 20,000-50,000 aircraft and a conservative estimate of $1,000 per EC device.[15] The CDA urges the FAA to conduct a true cost comparison of the regulatory impacts of this proposal.

ii. UA-to-UA Deconfliction

The CDA and its members recognize the importance of UA-to-UA deconfliction as the volume of UAS operations grows. It is important to acknowledge that collisions between unmanned aircraft are exceedingly rare. UA deconfliction strategies currently vary across the industry, and this variation is likely to continue as operators consider the

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[13] *See* Fed. Aviation Admin., *FAA 2024-2025 Aerospace Forecast Fiscal Years 2025-2045* 31, https://www.faa.gov/data_research/aviation/aerospace_forecasts/FY-2025-2045-Full-Forecast-Document-and-Tables.pdf.

[14] *See* Fed. Aviation Admin., *Compendium to FAA Aerospace Forecast FY 2025-2045 Emerging Aviation Entrants: Unmanned Aircraft Systems and Advanced Air Mobility* 16, https://www.faa.gov/data_research/aviation/aerospace_forecasts/2025-uas-and-aam-full-document.pdf.

[15] The unequipped fleet is challenging to estimate. The provided range is based the FAA's latest forecast data for the civil fleet and the most current FAA estimate for the equipped fleet, with some built in assumption.

appropriate methods for their particular operations. At the same time, the UAS industry generally acknowledges that the expected increase in volume of operations will ultimately necessitate a degree of interoperability for UAS operating in the low altitude airspace and in keeping with the above discussed changes to right-of-way rules.

To that end, the CDA appreciates the FAA's acknowledgement that UA-to-UA deconfliction cannot be accomplished by traditional aircraft separation methods, and that a unique approach is warranted. The National Aeronautics and Space Administration (NASA), Congress, and many within the UAS industry have long sought a regulatory framework for using a federated network of interoperable UAS Traffic Management (UTM) services to safely enable low altitude unmanned aircraft traffic. The FAA's proposed rule is a critical milestone toward this construct.

Since the FAA established the first UTM Key Site in Dallas several years ago, the industry has made significant progress in understanding how best to apply and adapt UTM principles—first theorized over a decade ago—to real world operations. The industry has also demonstrated that it is capable of problem-solving interoperability challenges to a societally optimum end with minimal FAA oversight. These learnings form the basis of the CDA's recommendations to §§108.185 and 108.190 as they pertain to the required use of strategic deconfliction services.

Change 1.5: Amend Strategic Deconfliction Requirements to Align with Population Density Changes and Enable Future Industry Interoperability

Strategic deconfliction requirements are a critical foundation for creating a federated, interoperable low altitude ecosystem. The industry-led governance committee has grown fourfold since its establishment two years ago, and the number of service providers who provide FAA-accepted strategic deconfliction services is growing quickly. However, the CDA believes it is also critical to create regulatory flexibility for adaptation of the strategic deconfliction concept in the future. To this end, the CDA recommends amending the requirement in §108.190 to require <u>interoperable deconfliction</u>**.**

The FAA's proposed requirement for strategic deconfliction as drafted does not create flexibility for operations that require more dynamic in-flight conflict resolution. Below, the CDA proposes several modifications to the regulatory text to enable the FAA to evaluate and potentially permit operators to demonstrate an interoperable ability to resolve conflicts dynamically in-flight and ensure safe operations in real time. These changes would ensure the UAS industry maintains flexibility to innovate as operational volumes increase. Additionally, the requirement for interoperable UA deconfliction should be decoupled from whether UA operations occur in controlled airspace. Nothing about airspace where air traffic personnel are providing separation services between manned aircraft increases the imperative for UA deconfliction; the two concepts are wholly unrelated. As discussed above, there are distinct methods for deconflicting manned and unmanned air traffic, and the requirement for UA deconfliction should not be tied in any way to legacy airspace constructs. The requirement in §108.190(a)(1) and (2) should be removed, as further explained below.

Finally, in accordance with the proposed amendments to §108.185 discussed under Change 1.3 above, the CDA supports requiring interoperable deconfliction in operations over category 2 and 3 population density areas, as redefined in this proposal. The CDA also supports maintaining a waiver option for this requirement, enabling operators a degree of flexibility to demonstrate to the FAA that interoperable deconfliction may not be warranted in certain circumstances.

Alternative text to §108.190 Use of interoperable deconfliction and conformance monitoring.

(a) Unless otherwise authorized by the Administrator, operations in Category 2 *[as amended in this proposal]* or higher operating category pursuant to 108.185 must be conducted with interoperable deconfliction.

(b) Unless otherwise authorized by the Administrator, operations in controlled airspace pursuant to 108.180(a)(2) must be conducted with conformance monitoring.

(c) Unless otherwise authorized by the Administrator, an interoperable deconfliction capability must meet the following requirements:

(1) Perform strategic conflict detection and resolution prior to takeoff, and in relation to other unmanned aircraft operations that are discoverable at that time; and

(2) Ensure ongoing effectiveness and efficiency of deconfliction approach.

Change 1.6: Replace Conformance Monitoring Requirement with an Aggregate Off-Nominal Notification Requirement

Aggregate conformance monitoring has been a successful mechanism to monitor UAS conformance to operational intents and will support industry compliance to the strategic deconfliction requirement of §108.190. However, as proposed in §§108.180 and 108.190, conformance monitoring introduces further conformance mechanisms which provide little to no value for the highly automated systems regulated under proposed part 108. Further, requirements to alert proximate airspace users and the FAA may have negative human factors repercussions, especially when considering they may have no impact to other operations.

Specific to conformance information being sent to the FAA, it would be more reasonable and efficient to provide a subset of operational data, though not in the form of a persistent live feed, to the FAA of relevant operational non-conformance to airspace information to address potential adjacent air risk. Accordingly, the FAA should redefine the conformance monitoring requirement for operations in controlled airspace in §108.195(d) and establish a working group between FAA and industry, modeled on the Collaborative Decision Making (CDM) process, to further define the requirements for

communicating relevant non-conformance to airspace information to the FAA via a means acceptable to the Administrator.

Since part 108 operations in controlled airspace would be reliant on this conformance monitoring capability, the CDA strongly recommends the FAA prioritize efforts to stand up this working group. Compliance should be required only after a defined period of time subsequent to the means acceptable to the Administrator in § 108.190(d) having been identified, tested, provisioned and publicly communicated by this working group. This ensures adequate time and predictability for service providers and operators to come into compliance. Additionally, prior to fully establishing this conformance monitoring capability, the FAA should make full use of its waiver authority to facilitate the information exchange through other procedural mechanisms so as not to prevent safe use of controlled airspace by compliant part 108 operators.

> **Alternative text to 108.195(c):** "A conformance monitoring capability must communicate operational non-conformance to airspace information to FAA via a means acceptable to the Administrator."

(iii) Permits and Certificates

The CDA and its members appreciate the FAA's recognition that not all UAS operators are the same in terms of size or operational complexity. The delineation between permits and certificates represents a critical enabler of industry scale in terms of applying appropriately risk-based regulatory rigor to applicants and oversight for operators. The CDA agrees with the FAA's goal in creating a permit path to enable most BVLOS operations through a streamlined approval process. As proposed, these operators would submit to two-year renewal requirements and limits on operational allowances in exchange for a faster, less onerous approval process and little to no ongoing FAA oversight.

The CDA agrees with the intent of enabling most truly BVLOS operations through a streamlined approval process—presumably faster and more predictable than applying for a BVLOS waiver under part 107—and focusing FAA oversight resources on more operationally large and complex operators. The NPRM describes three types of risk mitigations the FAA proposes applying to permitted operations—limitations on aircraft weight, active aircraft fleet size, and population density overflight—to limit the need for FAA oversight. However, these three types of limitations muddle the concepts of operational complexity and operational risk and create a confusing compliance framework for smaller operators.

Unfortunately, the operational limitations placed on permitted operations under the proposal undermines the FAA's stated intent, as they would require most operators in the aerial survey, civic interest, and agriculture operational categories to seek certificates to conduct their current operations. For example, many police departments and public safety agencies routinely conduct UAS operations in densely populated areas today under part 107 waivers or PAO CoWs. Under part 108 as proposed, these operators would be subject to equivalent requirements as large complex package delivery companies in order

to conduct the same operations they fly safely today. The upshot of the permit categories and limitations as proposed would likely result in one of two outcomes: significantly more certificate applications and operators than the FAA is resourced to process and oversee, or a cessation of smaller operations for those who cannot afford to meet the certificate requirements. Neither is an optimal outcome.

Change 1.7: Realign permit allowances in Subpart D through balancing FAA oversight needs with operational complexity, rather than operational risk limitations

Achieving the FAA's stated goals for delineating permitted and certificated operations necessitates fundamentally decoupling the concepts of operational risk and operational complexity. In the permitted operational concept as proposed, limitations on population density and aircraft size are methods to mitigate operational risk, while active aircraft fleet size serves as a rough proxy for the size or complexity of an operator's operations, in addition to indirectly mitigating operational risk. Instead, operational risk should be managed through airworthiness requirements and associated operational privileges. If an operator, regardless of size, is operating an airworthy aircraft, that operator should have the operational privileges associated with that aircraft as designed and accepted by the FAA. Placing operational risk limitations on the size and types of operations misaligns the ground risk principles driving the airworthiness/population density overflight framework. As discussed above, the CDA believes the FAA's one-size-fits-all airworthiness determination process is flawed and requires adjustment.

In delineating permitted and certificated operators, the FAA should instead focus on operational complexity and the public expectation of safety in appropriately applying its oversight resources. CDA members have found the concept of 'active aircraft' fleet size to be confusing. For example, it is unclear if an operator using multiple UA at separate and distinct operating locations, or UA installed in docks but not actively flying, should be counted toward the aircraft total. Operational complexity is more accurately captured by considering the organizational infrastructure that is required to maintain consistent adherence to required operating procedures, training, and emergency protocols—the more complex an operation, the more organizational infrastructure is needed to ensure safety. UAS operational complexity can result from many factors, including the number of operations personnel needed or flights being conducted, the capabilities of the system, or how geographically dispersed operations are, given the planning, training, and systems oversight needed to manage variables such as weather and airspace congestion simultaneously.

The CDA therefore recommends that the FAA consider operational complexity as a function of a) the required number of operations personnel needed to conduct operations and b) the number of simultaneous distributed operations. On one end of this spectrum, operations that require only a few operations personnel and that are contained to a single contiguous operating area should clearly be conducted under permits. Conversely, operations that require many operations personnel with multiple operations occurring simultaneously across the country would clearly require a certificate.

As system automation matures over the next several years, the FAA's approach to permit and certificate oversight may warrant change sooner than regulations will be updated. The CDA therefore encourages the FAA to consider regulatory methods for maintaining flexibility in how it defines and oversees operational complexity. One method may be for more performance-based regulatory text with accompanying guidance, similar to how part 135 air carriers are differentiated today.[16] Another method may be to make these variables subject to waiver, despite the option for a certificate, to allow both operators and the FAA flexibility in striking the right balance between oversight and operational complexity in the near future.

Relatedly, the CDA also strongly supports removing the requirement for each operating area to be pre-approved. A permitted operator should have the opportunity to earn approval to conduct operations nationwide, though perhaps not simultaneously, while still having appropriate operational complexity limits imposed. This is discussed in more detail under Change 3.2. Finally, the CDA encourages the FAA to include a deviation or waiver allowance for any operational complexity limitations applied to operational permits in support of emergency and disaster response efforts.

The change to operational complexity as a permit delineation instead of limitations on population density, aircraft weight, and active aircraft would serve a twofold purpose. First, it would enable the FAA to scale oversight resources better by focusing on managing operational risk at the point of system design and production, rather than for every distinct operation of the same system, by requiring an operator to be appropriately trained on a given system and comply with a manufacturer's operating manual. This could alleviate the need for the FAA to conduct validation testing for every operator using the same system designed for 1:many operations. Second, it could enable a much smoother transition for operations currently under waivers and exemptions to operations under part 108 permits. The CDA encourages the FAA to review examples of operational complexity currently approved under part 107 waivers today as a common-sense starting point for considering operational permit parameters under part 108.

The CDA considered other potential factors in determining the delineation between permits and certificates, including a simpler limitation on the number of discrete operations or a prohibition on 'holding out' for services for permitted operations. However, no single criteria ultimately captures the concept of operational complexity across all types of operations in a manner that meets both the industry's needs and the FAA's intent.

The only type of operation for which this logic does not hold is flight test operations, as they would not be required to use a UAS with an airworthiness DOC. For these operations, the CDA supports continued limitations on areas where these flights can be conducted, provided the FAA adopt the CDA's population density category suggestions in Change 1.3. In this case, the CDA supports limiting flight testing operations to

[16] *See* Fed. Aviation Admin. Order 8900.1, Vol 2, Chap. 4, Sec. 6.

unpopulated or category 1 areas, as these categories are proposed in this comment, unless otherwise authorized by the Administrator.

Change 1.8: Retain a path for simple EVLOS operations with small UAS under part 107

As stated above, the CDA strongly supports the FAA's goal to create a regulatory construct that supports scalable, highly automated BLVOS operations. However, it is critical to recognize that not all operations that require waivers to part 107 represent the highly automated and truly BVLOS operations for which this rule is intended. UAS have become critical tools for so many different vertical markets and end user groups, generally because they offer increased visual range. In many cases, a UAS does not need to fly very far away or BVLOS for very long to provide this benefit. Many public safety, agricultural, and infrastructure inspection applications can be performed by simply being airborne within a mile or two of a remote pilot in the field. Air risk is mitigated through the remote pilot's ability to monitor surrounding airspace, often using Visual Observers, and ground risk is mitigated through compliance with 14 CFR §§107.29 and §107.39. Because of their proximity and use case, many of these operations use drones without simplified user interaction features and may not fit well under part 108 as intended and drafted.

The CDA suggests defining "extended line-of-sight" (EVLOS) operations as the ability for a remote pilot-in-command or visual observer to see at least a 2-mile radius or airspace surrounding the drone to visually detect intruding aircraft. For these EVLOS operations, the CDA supports maintaining a path to operate under 14 CFR part 107. The CDA would like to see the part 107 EVLOS path normalized away from waivers, like how night operations have appropriately evolved. This normalized path could simply leverage the standard conditions and limitations applied to many §107.31 waiver operations today—requirements for certain UAS capabilities, operating area limitations, clearly defined BVLOS procedures in the Operations Manual, and perhaps online operator training—to enable EVLOS operations by rule rather than by waiver. These operations must continue to give way to all other aircraft, both manned and unmanned, using visual separation and maintaining airspace awareness in order to achieve acceptable UA-to-UA deconfliction in harmony with part 108. The CDA believes this would be an expeditious path to normalize many UAS operations today that are still truly piloted without compromising the FAA's goals in developing part 108.

(2) <u>Priority 2: The rule should recognize the differences between manned and unmanned aviation and leverage lessons learned to aircraft design and manufacturing</u>

The CDA and its members appreciate how far the FAA has come over the last several years in adjusting its oversight of UAS design and manufacturing to better reflect the diversity of solutions and technologies this industry uses to conduct safe operations. Unlike traditional aviation and aircraft, which has standardized in terms of both design and operations over decades, the UAS industry maintains a pace of rapid innovation, of both design iteration and risk mitigation, which understandably presents challenges for regulators seeking to write broadly applicable safety standards. As a foundational

comment for this set of recommendations, the CDA strongly urges the FAA to amend its proposed rule to better reflect the changes the agency has made over the last several years in applying a truly performance-based approach to evaluating aircraft reliability through the CMD process. The recommendations below build on the overarching suggestions made under Priority 1 above.

The current NPRM imposes manufacturing requirements that may make sense for large manned aircraft where only a few hundred aircraft may be produced per year, but do not make sense for drone manufacturers already producing thousands or tens of thousands of drones per month. For example, the Ukrainian government set a production target of 4.5 million drones for 2025.[17] Meanwhile, in 2024 Boeing and Airbus delivered 561 and 826 aircraft, respectively.[18] A one-size-fits-all model for manufacturing and testing does not make sense given the drastic difference between these two production models. Much commercial UAS production is more akin to building consumer electronics than traditional aircraft. The FAA's requirements should therefore consider the scope and scale of expected production, as well as the relative location of such aircraft on the safety continuum, and not simply impose ill-suited requirements developed for traditional aircraft design and production onto UAS.

For example, the large-scale production model for UAS is not conducive to a manufacturing and testing regimen that requires each product to be individually tested prior to being granted airworthiness. Section 108.735 would require that manufacturers conduct a production acceptance inspection and perform testing on each UAS produced. Additionally, §108.715 requires a DOC for every UAS produced. Again, this model could make sense for a manufacturer of manned aircraft that only produces hundreds of aircraft per year and aircraft that will fly for twenty to thirty years. Yet for UAS produced in the thousands and that may have a total use life of two to three years, such a requirement is neither sustainable nor necessary.

The CDA also notes the FAA's stated assumption in the preamble that UAS produced and flown under this rule are expected to be in use longer than the current expected average, and that manufacturing rigor should account for this shift. However, based on member surveying, this is likely a faulty assumption, especially for drones on the smaller and lighter end of the spectrum. Many operators continue to plan budgets on the assumption of flying a particular commercial drone for around three years, regardless of what operating rule the drone is flown under. This is primarily due to technological development cycles, rather than aircraft reaching life limits.

Additionally, the design requirements in subpart H re-introduce many elements of the TC process that the FAA ultimately deemed unsuitable for UAS, including prescriptive

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[17] *See* David Axe, *4.5 Million Drones Is a Lot of Drones. It's Ukraine's New Production Target For 2025*, Forbes (Mar. 12, 2025), https://www.forbes.com/sites/davidaxe/2025/03/12/45-million-drones-is-a-lot-of-drones-its-ukraines-new-production-target-for-2025/.

[18] *See Orders and Deliveries for Airbus and Boeing in 2024*, Statista (Apr. 9, 2025), https://www.statista.com/statistics/277047/key-figures-of-airbus-and-boeing/.

requirements around testing, propulsion systems, power systems, and labeling/marking. Many UAS manufacturers with current active fleets and hundreds of thousands of hours' worth of operational reliability data would be unable to comply with the design requirements as currently drafted. In the same vein, the CDA strongly supports the FAA's decision to provide manufacturers the opportunity to seek relief from any of proposed sections under subpart H.

The CDA strongly encourages the FAA to reconsider several aspects of subparts G and H to account for, and address, demonstrated differences between UAS production and traditional aircraft manufacturing practices, primarily rooted in expected volume, scale, needed design flexibility, and the pace of technology development.

Change 2.1: Manufacturing and testing requirements should reflect the expected scale and scope of UAS production, as well as create flexibility for rapid adoption of technology advances

As previously stated, the FAA took a critical step forward in creating a path for airworthiness acceptance rather than certification, but it needs to complete this circle by amending §108.715 to allow for submission of DOCs by aircraft model and series, rather than individual aircraft. Manufacturers should then be required to retain records of the serial numbers associated with accepted DOCs.

Additionally, the FAA should allow OEMs to demonstrate compliance to §108.735(c) without requiring manufacturers to conduct a full flight test of each individual aircraft, which does not support scalable manufacturing and production. Instead, the FAA could require manufacturers to conduct end-of-line testing, consisting of a suite of checks or tests to ensure the drone is in condition for safe operation. This is especially true for drones that are highly automated and behave in a predictable manner. The FAA could also adopt methods leveraged in other industries, such as batch testing, that could be specified in a manufacturer's required quality assurance system.

Though the CDA supports proposed requirements for inspections and audits, we strongly object to the requirements proposed in §108.745(c) for manufacturers to submit to independent inspections or audits by voluntary consensus standards bodies. The FAA should remove this provision as it simply imposes a cost burden on manufacturers without clear guidance on the extent of the audits, or evidence of improvement to safety. It also risks jeopardizing data security, intellectual property protections, and manufacturing competitiveness. The FAA already has established oversight mechanisms which ensure that manufacturers meet safety and performance requirements. Forcing manufacturers to undergo additional third-party inspections risks slowing innovation, exposing sensitive information, and ultimately creating barriers to entry in a rapidly evolving industry.

The CDA encourages the FAA to reconsider the eligibility requirements in §108.700(b)—these are largely misapplied requirements from traditional aircraft certification principles and should be removed. The CDA can find no evidence of any bilateral agreements that explicitly address UAS airworthiness, which is unsurprising given the FAA's decision to move away from TC for most commercial UAS. The eligibility

limitations in this section needlessly risk U.S. competitiveness abroad by constraining potential international reciprocity under other country's rulesets. Instead, the FAA should work with international peers to establish clear processes for international recognition and acceptance of American drones with part 108 DOC.

Further, the risk associated with the requirement for third-party "training and certification" for quality-assurance staff in §108.700(b) is being controlled for already in other critical safety requirements for manufacturers—a quality assurance system, production, and continued operational safety programs in proposed §§108.730, 108.735, and 108.740. The proposed training credential risks creating bottlenecks, uneven access to "approved" trainers, and ambiguity over which consensus standards apply, all without a demonstrable safety benefit. A performance-based requirement that manufacturers of safety-critical systems maintain quality assurance system, production, and continued operational safety programs would deliver traceable, auditable safety outcomes across the full design-to-fielded lifecycle and align with the FAA's broader safety philosophy. If the FAA retains a competency element, it should be framed as an outcome within the manufacturer's safety-based programs, not as a prescriptive external certification gate.

Requiring compliance with 14 CFR part 36 is another legacy aviation holdover that is not fit for purpose, nor achievable for our members. The CDA is disappointed that the FAA has not applied its learnings from previous attempts at noise certification, during which the Agency struggled to determine a noise measurement method that even registered the noise emitted by drones, which are far quieter than legacy aircraft. While the NPRM allows for industry standards to be developed, §108.710(b)(2) as drafted does not actually enable the creation of any standard by industry that is notably different from part 36. The preamble points extensively to the MOSAIC NPRM as inspiration for applying part 36 to the BVLOS community. However, this is wholly inconsistent with the remainder of the proposed rulemaking, which explicitly identifies part 108 aircraft on the safety continuum below MOSAIC, and the final MOSAIC rulemaking does not include these same requirements. Accordingly, compliance with part 36 for any noise requirements should be optional under part 108.

The FAA should also allow manufacturers the flexibility to develop their own MOCs to comply with the requirements of §108.930, rather than rely on industry consensus standards. With this framework, the FAA should accept a manufacturer's simulation data coupled with real-flight data to ensure coverage of the environmental envelope. This flexibility will enable manufacturers to leverage state-of-the-art modeling while ensuring robust safety verification. Further, the FAA needs to clearly define or provide additional guidance to manufacturers on terms such as probable failure and loss of control/loss of flight to ensure safe and consistent compliance.

Additionally, the function and reliability testing requirements in proposed §108.935 must be amended to enable more rapid technology development and fleet-wide adoption. The CDA's proposed modifications to required flight hours are described in more detail under Change 1.1 above, but further modifications are needed to §108.750 to ensure that manufacturers are not subject to needless retesting. As drafted, §§108.750 and 108.935 could be interpreted to require manufacturers to complete 150 hours of flight testing for

both initial aircraft design as well as for minor changes that have no effect on the UAS operation. This is burdensome with no safety benefits.

Instead, the FAA should consider a tiered approach for changes like that used in the CMD—which is supported by data—for what constitutes a significant or substantial change. This could be accomplished by modifying §108.750(b) to allow review, classification, and acceptance of changes to be aligned with FAA's CMD guidance used for current 44807 exemptions which we propose should be adapted by an SDO for use as MOC for Subparts G&H. For example, the CMD allows significant changes to be verified with 40 hours of incident free flight testing which may include up to 20 hours of simulation or bench testing. Alternative text for 108.750(b) could read: "The manufacturer must demonstrate compliance with the requirements of this subpart and subpart H of this part for any design change to an unmanned aircraft system that has received airworthiness acceptance as appropriate for the extent of the change."

Finally, the concept of "loss of flight" should be refined. The intent behind this phrase is to capture the inability of a UA to complete its flight safely. Loss of flight includes scenarios where the UA experiences controlled flight into terrain, obstacles, or any other collision, or a loss of altitude that is severe or non-reversible. However, thousands of FAA-approved UA in use today include safe, controlled landings as a precautionary option as a contingency management option. Such events improve safety by ending the flight before an off-nominal condition can degrade into an unsafe one. Categorizing such events as "loss of flight" is pejorative and contrary to safety best practices. The CDA recommends the FAA adopt a more performance-based definition to support 108.935(b)(1) loss of flight as "the inability to continue safe flight and safe landing for reasons other than loss of control."

Change 2.2: Design requirements should be truly minimum performance-based safety standards that allow for rapid iteration and not prescribe ill-suited legacy limitations

The CDA proposes numerous suggestions for further refining many of the design requirements contained in Subparts G and H. As an overarching matter, the CDA also strongly urges the FAA to accept all existing standards that it has recognized through the CMD process as acceptable means of compliance to the required design elements in this subpart.

§108.805 Size, weight, and speed. While the FAA references this limitation based on groundspeed in part 107 as providing sufficient precedent for a corresponding limit in part 108, this limitation is not reflective of the unique nature of BVLOS operations. The aircraft used in many BVLOS missions, especially fixed wing aircraft, cruise at higher altitudes and for longer distances than part 107 missions. These aircraft safely encounter a wider range of wind conditions, including headwinds and tailwinds that fall within the aircraft's validated design limits. Therefore, an aircraft may exceed a given groundspeed limit because it is flying with a tailwind, but it is still operating within its design airspeed envelope. Therefore, we propose providing an alternate unit of measurement to increase flexibility for manufacturers, especially given the different methods fixed-wing and

rotorcraft UA use to measure speed. Additionally, we recommend removing the wingspan limitation as an unnecessary barrier that will disproportionately disadvantage agricultural aircraft, which fly almost exclusively in sparsely populated areas.

> **Proposed alternative text to §108.805(a):** "be limited not to exceed— (1) 87 knots ground speed; or (2) 87 knots indicated airspeed."

§108.810 Simplified user interaction. The CDA supports the removal of the words "or available" in paragraph (a)—the mere presence of system elements such as joysticks does not preclude the aircraft from meeting all other user interaction requirements under this section and could obviate much of operators' existing fleets from qualifying for use under part 108. Joysticks, keyboards, and other devices can function similarly to "push buttons, knobs, and touch screens" for simple commands like airspeed, altitude, and heading. Additionally, the FAA should include the UAS, not just the UA, in paragraph (b) of this section. The entire system, not just UA, should be designed to resist or prevent operation outside of the flight design envelope.

§§108.840 Power generation, storage, and distribution system & 108.845 Propulsion system. Many current small UAS models would not be able to meet the requirements for system redundancy prescribed in §§108.840(b) and 108.845(c), both of which preclude alternative mitigations for power or propulsion system failure that many manufacturers have designed already to control for unsafe conditions in the event of system failure, including pre-determined safe responses. Implementing such redundancy would increase the size and weight of the aircraft, thereby exchanging a lower probability of an accident for a more severe outcome (due to higher impact kinetic energy). This is an unacceptable tradeoff that significantly disadvantages small UAS manufacturers.

> **Proposed alternative text to §108.840(b):** "No single failure or malfunction of the unmanned aircraft power general, storage, or distribution system hinders the system from supplying essential loads"

> **Proposed alternative text to §108.845(c):** "The propulsion system must not allow the loss of power or a power failure to a loss of containment or control of the aircraft."

§108.855 Fire protection. The FAA should clarify that the safety objective of this requirement is intended to address normal operating deceleration loads of the aircraft design. The FAA's explanation in the preamble, which uses the example of "crashes" not leading to structural damage of an aircraft, is very different from the language in the regulatory text, which discusses "dynamic deceleration loads." Requiring a design to keep the aircraft free of structural damage during a crash is not a reasonable or practical safety outcome for UAS not carrying people. Instead, the FAA should ensure that manufacturers develop aircraft designs that prevent and contain damage, as applicable. §108.855 should be edited to account for the variety in aircraft designs and provide manufacturers with flexibility to determine their capabilities to meet the FAA's requirement for addressing damage.

Proposed alternative text to §108.855: "The unmanned aircraft must be designed to sustain expected operational static and dynamic deceleration loads without causing structural damage to the fuel or electrical system components or their attachments."

§§108.870 Systems and equipment & 108.880 Associated elements design and performance requirements. Paragraphs (c) and (b) respectively of these sections do not clearly define "hazard," nor provide an approach for drone manufacturers to define a "probable failure." However, the preamble says that "[p]robable failure conditions are those failure conditions anticipated to occur one or more times during the entire operational life of each UAS," referring to the JARUS SORA 2.5 definition of the term.

Proposed alternative text to §108.870(c): "No probable failure shall result in a hazardous outcome."

Proposed alternative text to §108.880(b): "Any probable failure or malfunction of an associated element or component thereof must not result in a hazardous outcome."

§§108.900 Flight data recorder, 108.905 Flight data analysis, & 108.725 Flight data. The FAA should clarify and deconflict the required elements included across these three sections. The CDA generally supports requirements for UAS to be designed to collect flight data for potential use by both operators and manufacturers, as well as to support accident and incident investigations by the FAA or NTSB. However, these requirements must also be deconflicted from other requirements in the rule around cybersecurity and data protection. For example, many commercial package delivery companies follow strict measures to protect customers' information, and many utility companies have strict data protection protocols around images and data collected around sensitive critical infrastructure. The CDA strongly opposes design requirements that provide manufacturers complete or unfiltered access to operator data—especially when the entity is not the same. Further discussion of this is contained under Change 3.3 below.

§108.910 Noise. As stated above, the CDA strongly opposes the noise requirements as proposed and urges the FAA to remove this requirement. The FAA's proposal to rely on the development and issuance of a noise consensus standard or comply with part 36 requirements is extremely nebulous. There are no existing noise testing standards for UAS, nor does part 36 have clear or set criteria that are applicable to UAS. This could lead to significant compliance issues and delays in the drone industry to be operational, without any benefit.

§108.920 Identification and marking. Consistent with CDA's recommendation in Change 3.1 below, the CDA strongly opposes applying part 45 identification and marking requirements to UAS. These are overly prescriptive requirements written for traditional aircraft and do not account for the unique nature of UAS. Part 48 marking requirements combined with part 89 remote ID requirements are more than sufficient to meet the core intent of providing identification for a UAS in-flight.

§108.925 Additional design and performance requirements for specific operational purposes. Proposed §108.925(b) incorrectly assumes that UAS carriage of HAZMAT is equivalent to traditional transport modes, such as trucks or airplanes, where containment standards account for entirely different operational risks and physical impact scenarios. UAS operate under significantly different conditions—including weighing less and carrying significantly smaller loads—which reduce the overall risk of catastrophic release compared to conventional HAZMAT transport. As such, the FAA's design requirements should provide flexibility for OEMs to demonstrate safety through a more performance-based outcome and suitable containment methods proportionate to the assessed risk level.

> **Proposed alternative text to §108.925(b):** "For unmanned aircraft designed for the carriage of hazardous materials, the unmanned aircraft or transport container must have sufficient structural integrity to contain the hazardous material without allowing leakage or release of the material in probable landing and payload release scenarios."

(3) <u>Priority 3: The rule should balance regulatory oversight with the true operational and security risks presented by commercial drone use</u>

The United States has long set the gold standard in aviation safety across the world. This is due in no small part to the FAA's risk-based oversight framework, concentrating safety assurance activities on aircraft and operations where compliance is most critical for maintaining public safety and managing overall system risk. For decades, this approach has enabled the FAA to efficiently manage its limited resources even as the overall size and complexity of the aviation system has grown significantly.

In many ways, UAS production and operations are incompatible with the historical and proven methods the FAA uses to conduct oversight. For example, overall aircraft production and aggregate flights have been key data points that the FAA uses to determine where to focus oversight resources on regulated manufacturers and operators respectively. If the FAA applied this model to UAS however, resources would become overwhelmed very quickly. The volume of aircraft being produced, sold, and flown, the vast quantities of operational data generated, the ability to safely manage many highly automated aircraft with limited personnel, the reliance on software and system design to assure safety, and the re-distribution of responsibility for safe operations away from individuals to organizations—all strain the traditional auditing, validation, inspection, and check methods that FAA inspectors and safety specialists have relied on for decades to keep risk at bay.

However, these tensions also represent opportunity. UAS, which do not carry people onboard, represent a uniquely fundamental divergence from so many legacy aviation assumptions. Considering an effective oversight framework for part 108 should compel the FAA to return to the fundamental tenets of regulatory oversight and consider the foundational objectives of certain regulatory requirements in its efforts to develop an appropriate model for UAS. Several aspects of this proposal deserve reconsideration when viewed through this lens, including requirements related to registration,

recordkeeping and reporting, data collection, maintenance and alterations, and ADSP software updates.

Change 3.1: Retain a streamlined registration process for UAS under §108.115

The fundamental precept of aircraft registration is the ability to connect an aircraft with its owner. Legacy aircraft registration requirements in part 47 were written to manage traceability for traditional aircraft ownership—31 regulations total, more than twice as many as the FAA found necessary for small UAS registration and marking requirements in part 48. This is a clear indication that the FAA must re-evaluate its proposal to apply part 47 registration requirements to all UAS operations under part 108.

First, the sheer volume of drones that will need to be registered when considering future scale under part 108 risks seriously overwhelming the system—slowing down the processing of traditional aircraft registration, reducing the availability of N-numbers, and increasing the risk of administrative errors. As of July 2025, 433,407 commercial drones are registered, many of which would need to be re-registered under part 47 if used in future part 108 operations. This would duplicate both cost and time burden on industry—neither of which are accounted for in the Regulatory Impact Analysis. Managing this volume through the part 47 process, even if it eventually transitions online, would be inefficient and time-consuming. While we appreciate that the FAA has made significant strides in reducing the time it takes to register an aircraft under part 47, applying these requirements to UAS more broadly in no way justifies the administrative burdens, especially considering the FAA's stated basis in the preamble that 1) the FAA's IT systems cannot be updated to accept new information, and 2) this approach would necessitate significant regulatory updates to part 48.

Additionally, this change would create clear compliance liabilities for both operators and the FAA, given the sheer volume of drones currently registered and the expectation that many operators may choose to fly the same aircraft under both parts 107 and 108. The FAA has not addressed multiple compliance aspects of this scenario—for example, it is unclear if drones would be required to be marked with two registration numbers.

Finally, part 47 also considers circumstances either beyond the scope of part 108, such as international operation, or unnecessary in the context of online registration, such as effectivity and expiration of physical registration certificates. The UAS industry has long labored under the misapplication of rules written for very different aircraft. When the FAA implemented UAS registration requirements in December 2015, the agency took a significant leap forward in creating an online registration system that was tailored to UAS. It would be completely incongruent with the intent of part 108 to move backwards with regard to something as administrative as aircraft registration.

Instead, the FAA should expand part 48 to allow for registration of all drones flying under parts 107 and 108 using the existing online registration system, which has proven effective in handling large-scale UAS registrations. It is critical that legacy information technology (IT) systems are not the chokepoints in achieving the simple objective of

connecting an aircraft to its owner. The FAA has already leveraged alternative systems such as the UAS Declaration of Compliance database to collect additional data fields or files if upgrading the online registration system is not an option.

Alternatively, the FAA could implement the option mentioned in the NPRM preamble and create a registration process specific to part 108.[19] This approach should allow for streamlined or even "batched" registrations to be submitted directly by manufacturers, which would be particularly beneficial given the anticipated high production volumes of UAS. In implementing this option, the FAA should also consider how to manage registration for UAS being flown under different operating rules. This may also be an opportunity to consider streamlining registration for UAS flown by a manufacturer for developmental testing and function and reliability testing that are then sold and subsequently flown by an operator.

Change 3.2: Adjust the required FAA approval for area of operations §108.165

While the CDA supports the safety intent of §108.165, we urge the FAA to revise paragraph (a) to eliminate the proposed requirement for area-by-area FAA approval prior to commencing operations. This framework is fundamentally incompatible with scalable commercial UAS operations, especially those conducted under certificates meeting the requirements of Subpart E, and departs from how FAA regulates crewed aviation, where air carriers under parts 121 and 135 are generally not required to seek domestic location-specific or route-by-route approvals. Instead, part 108 operators should be authorized to operate nationwide under a Concept of Operations and safety case that is compliant with part 108's operational, airworthiness, and airspace integration parameters. Retaining this proposed requirement for area-by-area approval would create unnecessary bottlenecks, delay innovation, and prevent efficient service expansion into new areas, even when those areas are fully compatible with the operator's risk profile and capabilities, and would inevitably slow the ability to scale operations. We respectfully urge the FAA to revise § 108.165(a) to reflect a national, scalable approval model consistent with the agency's performance-based principles and long-term vision for drone integration.

Additionally, §108.165(b) must be updated to reflect more advanced capabilities. While the designation of alternate landing areas is important, as the FAA is aware, some operators use onboard perception systems to identify safe landing areas in real time. The FAA has evaluated and approved this technology for use under exemptions, and some operators currently deploy the technology, demonstrating equal or greater safety than static predesignated zones. To support safety and to avoid moving backwards, the final rule must explicitly permit real-time alternate site identification through onboard technology as a valid compliance path.

Further, §108.165(c)(1) requires revision to remove the limitation that takeoff, landing, and loading areas be "access-restricted to only persons participating in the operation." This phrasing does not reflect operational realities at scale. Maintenance staff,

[19] *See* BVLOS NPRM at 38233.

facility operators, and logistics personnel, amongst others, may regularly occupy operational areas without being tied to a specific flight. Moreover, the proposed language risks unintentionally restricting access to drop zones for package delivery operations, where deliveries occur in residential yards, driveways, and shared spaces where bystanders or recipients may be present. This requirement should be amended to require an operator to not create a hazard to persons or property not participating in the operation.

To account for these realities while preserving the intent of the proposed regulation, the final rule should focus on requiring effective safety mitigations, instead of imposing absolute access control, in recognition of these proven capabilities. As drafted however, §108.165(c)(1) imposes a more restrictive framework than that already permitted under some exemptions. The language as proposed departs from the FAA's prior risk-based approach that rightly rejected rigid setback distances in favor of operator-specific mitigations. Reintroducing blanket restrictions on ground access reverses this progress and undermines the scalability of proven mitigation without any offsetting benefits.

Change 3.3: Refine recordkeeping and reporting requirements to align with desired safety outcomes

The CDA appreciates the importance of recordkeeping and reporting requirements to improve transparency between the industry and the FAA and to help identify and mitigate potential risks. These requirements, however, must be proportionate to the need and use of the information. Multiple revisions are needed to the recordkeeping and reporting requirements in §§ 108.40 and 108.45 to tailor them to circumstances that directly impact the safety of the NAS and the public.

The proposed recordkeeping requirements in §108.40 for both aircraft and personnel are burdensome for industry in terms of the type of data requested, the length of record maintenance, and cost. The collection of relatively routine data and retention of records for all flights in §108.40(a) is extensive and does not account for the large volume of UAS flights when compared to traditional manned aircraft. Further, an influx of routine data prevents the operator and potentially the FAA from focusing on records that would highlight anomalies or other circumstances that impact the safety of the NAS. Allowing industry to provide and maintain curated records would avoid redundant and regressive recordkeeping practices. The CDA therefore encourages the FAA to consider an approach that manages recordkeeping requirements by exception, to avoid an effective avalanche of industry records.

The CDA urges the FAA to significantly uplevel the minimum recordkeeping requirements contained in §108.40. First, maintaining all records in §108.40(a) for 24 months is unnecessary. The FAA's stated intent behind this requirement is to ensure "the FAA and operator would have historical data to look back on to determine root causes to occurrences, incidents, or accidents." However, the UAS operating under this rule are highly automated, with highly advanced software supporting their operation, which is capable of conducting such analysis much faster than the FAA may be accustomed to in traditional aviation. Root cause analysis is regularly conducted in hours, not days or

weeks, and corrections can be implemented correspondingly rapidly, thus rendering 24 months of such operational data obsolete very quickly. One alternative would be to require operators to retain operational data pertaining to occurrences, incidents, or accidents for longer, perhaps 6-12 months, and allow all other operational data to be deleted after one month. This would still meet the FAA's needs in terms of historical data for root cause analysis without creating mountains of data, and would significantly reduce data retention costs, especially on smaller operators.

Additionally, proposed retention times in §108.40(f) are not performance-based and result in recordkeeping for recordkeeping's sake. Retention of data related to aircraft maintenance and mechanical irregularities should be tied to the life of the aircraft and the resolution of the root cause of the irregularity, after which it ceases to be useful. Similarly, the FAA's intent in requiring lengthy retention periods for personnel and training records is unclear. Unless the FAA intends to review personnel records in approving operational personnel, these records do not warrant retention for much longer than the length of employment.

With regard to the reporting requirements in §108.45, the CDA urges that operator flight data reporting requirements should be driven by safety concerns and prioritize targeted incident reporting and data minimization over a blanket monthly data disclosure to manufacturers who may not need to play an active role in mitigating the safety concern. The FAA is significantly underestimating just how large these datasets will be and has no identified way to receive such large volumes of data, let alone process and analyze it.

Further, the routine sharing of flight data—such as aircraft location and altitude—raises confidentiality and data security concerns, especially in cases where the aircraft manufacturer and the operator are different entities. By collecting this data, manufacturers could analyze operational patterns to infer sensitive business practices, competitive strategies, or customer bases. It could expose operator networks or customer trends, thereby undermining the privacy and possibly security of the operator.

Data sharing between operators and manufacturers should be driven by a manufacturer's needs in providing for continued operational safety (COS), which may vary by system. Therefore, the CDA recommends the FAA amend requirements in §108.45(a) and (d) to require operators to share reliability and service difficulty data with manufacturers as defined in the manufacturer's operating and/or maintenance manual. This enables manufacturers and operators to collaborate on tailored COS needs that still preserve operator's sensitive data. Operators could also be required to share flight data with a manufacturer in response to a safety incident at the FAA's prompting.

Further, data reporting from operators to the FAA should be limited and focus on flight data in response to safety-critical incidents and security occurrences that have a direct impact on operational safety. The CDA recommends the FAA limit routine operational data reporting to voluntary aggregate annual flight data collected by industry-led safety teams for the purposes of developing industry-driven safety enhancements. The CDA generally opposes the FAA requiring operators to report vast quantities of information to the FAA with no clear purpose or safety case.

Additionally, the CDA strongly recommends the FAA exempt training and flight-testing operations from general recordkeeping and reporting exemptions. Including requirements for reporting in relation to these operations suggests that incidents during what are essentially 'practice' or test missions may be used for overall trend analysis or subject to enforcement action. Such requirements constrain innovation by making operators fearful of testing and producing an anomaly that must be reported to the FAA.

Change 3.4: Manufacturers and ADSPs are in the best position to ensure software updates

The CDA urges the FAA to reconsider how software changes and updates are managed under the rule. By including software updates as "alterations" under §108.625, manufacturers are potentially in the position of having to conduct fleet-wide testing after a routine software update, which may occur multiple times a week, prior to returning aircraft to service. Further, requiring FAA approval for software updates made under §146.405 fails to account for potentially time sensitive safety updates and puts the FAA in the position of taking on liability for causing delays or approving technical modifications it does not have the expertise to oversee. As such, this requirement is not only disproportionate to the potential risk but also introduces the risk of hindering beneficial safety improvements.

Additionally, requisite notifications regarding software updates as described in §146.405 are not justified for interoperable UTM services. As evidenced by the FAA UTM Operational Evaluation and industry's U.S. UTM Implementation, UAS operators took a collaborative, industry-led approach to streamline and optimize software development. The FAA has recognized the efficacy of both the software tenets and the larger operational systemic coordination as a whole by instead requiring Service Level Agreements when granting Letters of Acceptance (LOA). Notification responsibilities to the users and FAA should align to this new paradigm and be associated with updates to SLAs.

Change 3.5: Maintain a performance-based approach for determining operations personnel and duty and rest requirements

A plain reading of §108.300 would imply that the list of roles or tasks is prescriptive versus representative, meaning at least anyone performing these roles/tasks must be considered as operations personnel. Such an interpretation would apply the accompanying operations personnel requirements (e.g. no alcohol within 8 hours, duty and rest limits) in §§108.315 to 108.330 to anyone performing any of these functions. For some UAS operations, the individuals performing tasks such as ground handling and loading have no ability to negatively impact the safety of the operation. Therefore, the language in §108.300 should be updated to clarify that the list provided is representative and at the discretion of the operator based on the ability to adversely affect safety of operation.

Further, given the highly automated nature of operations under part 108, the FAA should not prescribe specific duty and rest requirements for operations personnel under this rule. The human role in supporting highly automated is not comparable with the responsibilities of a crew members in operations subject to FAA flight and duty time rules,

especially those with passengers on board, but also all-cargo operations. This should be a performance-based requirement on the operator, similar to training, to ensure that (1) all relevant operations personnel receive adequate rest and time off and (2) all relevant operations personnel are capable of performing their assigned duties for the duration of their shift.

Imposing more stringent requirements on, for example, UAS ground personnel than those applied to the individuals who maintain or service large manned aircraft carrying passengers is inconsistent with the FAA's risk-based safety continuum and would unnecessarily constrain the industry. Broader application of prescriptive requirements would create disproportionate costs, slow scaling of operations, and provide no commensurate safety benefit.

If the FAA opts not to adopt this recommendation, the CDA strongly recommends that any duty and rest requirements be limited to the flight coordinator, if the operation uses one, and the requirements should be adjusted to more performance-based language below. Flight coordinators are the only personnel with tactical oversight of individual flights and therefore the only operations personnel for whom duty and rest limits could be justified. There should also be adequate flexibility in the enforcement of this provision for flight coordinators in support of emergency and disaster response activities.

Proposed alternative text to §108.330 Duty and Rest.

(a) Each operator must establish and maintain duty and rest requirements for flight coordinators to ensure that no flight coordinator is scheduled for duty in a manner that would impair their ability to perform assigned safety-critical functions. Duty and rest requirements must include:

(1) A minimum rest period prior to duty;

(2) A maximum duty period; and

(3) Provisions for emergency and contingency operations.

(b) The Administrator may authorize deviations from the requirements of this section when necessary to support emergency or disaster response activities, provided the operator demonstrates that safety will not be compromised.

(4) <u>Priority 4: The FAA should seek to reduce turbulence in transitioning from today's operating frameworks to operations under this rule</u>

A repeated point of CDA emphasis throughout this comment is the need for the FAA to provide for a smooth transition of operations occurring under other operating rules to operations under part 108. Several of CDA's proposed changes would both ease the transition burden and also reduce the timeline for such transitions. The same principle applies to harmonizing regulations internationally to support American aircraft and

operators overseas. Below, the CDA provides several suggestions for increasing clarity and reducing costs during the implementation period for this rule.

Change 4.1: The final rule should maximize recognition for existing approvals to transition operations under part 108

The FAA's NPRM does not provide a clear path to transition existing operators, including those who have achieved part 135 approvals, or who are operating under part 107 waivers or 44807 exemptions. The Final Rule and/or supplementary agency guidance should ensure that manufacturers and operators may continue to manufacture and operate uninterrupted. All existing authorizations and safety materials (e.g., BVLOS approvals, 1:many authorizations, FAA-accepted SMS, approved hazardous materials programs) should remain valid. This recognition must extend to all operating, airworthiness, and airspace authorizations granted by the FAA to both operator systems and aircraft models the FAA has previously approved. To this end, while not comprehensive, the FAA should amend §108.105(b) to include aircraft that have received an acceptable FAA Criteria for Making 44807 Determination, as described in Change 1.1 above.

Estimating appropriate transition times to operations under this rule depends on a number of factors contained in the final rule. For instance, if the FAA accepts the CDA's proposed Changes 1.1 and 1.2, manufacturers could potentially transition faster than if FAA retains the requirement that all MOCs must be developed by consensus standards organizations. Additionally, retaining certain design requirements, such as the prohibition on 47 CFR part 15 spectrum use for C2 and redundant electric systems, instead of accepting CDA's proposed Changes 1.3 and 2.2 would significantly increase needed transition times, necessitating complete system redesigns and fleet replacements. Additionally, adopting CDA's proposed Change 1.8 would also significantly reduce turbulence for many operators currently flying close proximity EVLOS operations.

The CDA strongly encourages the FAA to begin implementing small changes to waivers and exemptions as soon as practical after the final rule with regard to deconfliction requirements. This could be done through the addition of conditions and limitations as the FAA renews waivers or exemptions prior to full implementation of p108, which will more evenly distribute the costs of full compliance over time. These changes should be made carefully and fully communicated to potentially impacted operators, and they should not be done before reasonable services or technologies are available and approved.

Change 4.2: The FAA should produce guidance on alignment between final part 108/part 146 requirements and international regulations to reduce compliance burdens and preserve U.S. competitiveness

As drafted, there is no stated equivalence between any part of parts 108 or 146 and the 70+ countries that issue SORA-based approvals, or the European U-Space certification framework. This could result in regulatory ambiguity and business risk that approvals abroad will not provide any credit for approvals under part 108, or vice versa,

potentially causing operators or manufacturers to prioritize efforts for compliance with markets that recognize SORA over part 108 compliance. The CDA considers that bad for business and bad for American competitiveness. The FAA should provide explicit guidance with the release of a final rule on how to translate between the U.S. and other international frameworks, since part 108 integrates airworthiness and operational approvals, while SORA treats them separately. Clear delineation avoids duplication and ensures consistency.

The benefits of these steps cannot be overstated. Explicit guidance for international harmonization would allow prior approvals to carry weight internationally, reducing time, cost, and regulatory fatigue, and would also ensure hazards, mitigations, and acceptable levels of risk are defined in comparable ways, so authorities can more easily understand and trust each other's safety cases. Predictability like this gives operators and investors alike confidence that approvals in one jurisdiction open doors elsewhere, reducing uncertainty in scaling operations. If the U.S. regulatory framework remains misaligned with that of its counterparts, American operators and manufacturers could face higher costs, slower approvals, and reduced attractiveness compared to jurisdictions that align more closely with the SORA or ICAO standards, risking the United States being left behind in the global UAS market.

(5) <u>Priority 5: Security requirements need to be flexible and scalable to meet the intent of the rule</u>

Safe and secure UAS operations are necessary to integrate drone technology into our NAS. The CDA has long supported and advocated for policies that assist federal agencies in confronting malicious use of drones. This includes both expanding authorities for appropriately trained state and local law enforcement agencies to detect and mitigate rogue drones, as well as rulemaking to implement Section 2209 of the FAA Extension, Safety, and Security Act of 2016. Our members remain fully committed to enabling the good while preventing the bad, which means security officials must have the information and tools they need to take action against malign drone use.

We must collectively acknowledge two uncomfortable realities. The first is that consumer off-the-shelf drones available for purchase by the public are highly accessible today and can be used for both good and bad purposes, regardless of federal regulations. No amount of regulatory rigor imposed on careful, compliant, commercial BVLOS drone operators will prevent consumer off-the-shelf drones from falling into criminal hands. The second is that criminals knowingly violate laws and regulations all the time in the performance of malicious actions. Therefore, regulations intended to enable the safe and lawful deployment of commercial drones must be grounded in proper risk assessment and remain practical, otherwise we deprive our communities of societal benefits in a misguided (and unsuccessful) attempt to stop criminals.

The commercial drone industry takes security seriously, as evidenced by years of safe, secure operations. Overly prescriptive or duplicative security mandates can slow innovation, reduce operational resilience, and undermine the security of the NAS. If operators are forced to divert significant resources toward compliance activities that do

little to mitigate actual threats, they may be less able to invest in technologies and procedures that enhance both safety and security. Additionally, if the TSA spends considerable agency resources on extremely low-risk commercial drone operations rather than protecting passengers flying through major airports, this introduces an even greater risk to the flying public. The resulting regulatory bottlenecks, including delays in processing workforce clearances, could create gaps in UAS operations that compromise both efficiency and safety within the NAS, while usurping resources that would otherwise keep commercial aviation passengers safe. Finally, the TSA's proposed requirements significantly undercut the deregulatory intent of this rulemaking by imposing a significant cost burden which the rule fails to assess, with no acknowledgment of the probability or severity of the alleged risks it seeks to mitigate.

Particularly given that no explanation was provided in the NPRM to justify the TSA's security proposals, the CDA has significant concerns. The practical effects on the industry, businesses both large and small, as well as the customers they intend to serve, would be devastating. While the industry collectively shares the stated goal of enhancing security, the rule as proposed would impose obligations that are neither practical nor proportional to the risks identified. Nor does the proposal take into consideration the significant efforts made by UAS operators today to ensure safe, secure operations. It is also apparent that the proposal does not reflect any coordination with the commercial UAS stakeholder community. This is disappointing, as the TSA has successfully collaborated with other sectors of the aviation industry to collaboratively develop risk-based security guidance.[20]

The CDA therefore urges TSA to withdraw its NPRM and work with the commercial drone community on a risk-based, appropriate approach to commercial drone security and asks that the FAA's final rule also exclude regulatory requirements based on TSA's proposals in this proposed rule. The CDA would be happy to work with TSA to further this effort. We provide additional details on our concerns below.

(i) §108.335 Personnel Vetting

The CDA is very concerned with the vetting requirements TSA proposed in the draft rule. As drafted, the Security Threat Assessment (STA) requirements under Subpart C § 108.335 would require that all "covered persons" undergo a Level 3 STA. The definition of "covered persons" includes not only the defined personnel positions in the rule, operations supervisors and flight coordinators, but also anyone with "unescorted access" to UAS, related cargo, or flight paths. CDA understands the importance of ensuring the safety and security of BVLOS operations, but the proposed requirements are costly and impractical on several levels.

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[20] *See, e.g.*, Transp. Sec. Admin., *Security Guidelines for General Aviation Airport Operators and Users* (July 30, 2025), https://www.tsa.gov/sites/default/files/ga-security-guidelines-july2025.pdf (jointly developed publication with the General Aviation community regarding general aviation security concepts and guidelines).

First, TSA regulations define "unescorted access authority" as "the authority granted by an airport operator, an aircraft operator, foreign air carrier, or airport tenant...to individuals to gain entry to, and be present without an escort in, secured areas and Security Identification Display Areas of airports" and "unescorted access to cargo" as "the authority granted by an aircraft operator or IAC to individuals to have access to air cargo without an escort." It is clear from these definitions that the "unescorted access" this terminology historically refers to is in the context of an airport, and specifically areas of an airport that are designed to be segregated from the general public.

However, in the context of UAS operations, this could extend far beyond operational personnel. The interpretation of "unescorted access" in the commercial drone context certainly extends far broader than in an airport environment. Retail warehouse, pharmacy, or restaurant staff, package handlers, or even third parties (including members of the public) at delivery points—individuals who have no meaningful ability to compromise security—could all have "unescorted access" to UAS cargo at some point, because for some operations, cargo is frequently retrieved from retail shelves or restaurants prior to being loaded and delivered. The number of all potential "covered persons" is practically limitless, and the cost nearly impossible to calculate. Neither the preamble nor the insufficient Regulatory Impact Analysis provides an estimate of how many individuals would be "covered persons" under proposed §108.335.

Second, the financial and operational costs associated with the proposed level of STA vetting requirements are disproportionate to the potential security risks they aim to address. No reasoning or threat assessment is provided to justify "up to a Level 3 STA," nor is any criteria provided for differentiating which persons would need a Level 3 STA and which would need less than a Level 3 STA. This level of vetting is used for truck drivers transporting mass quantities of hazardous materials or allowing access to secure areas of major airports. Many passenger-carrying pilots and cargo loaders at airports do not require this level of vetting today, nor do ground delivery personnel who have unescorted access to a variety of goods on a daily basis. As another example, security sensitive individuals at "high risk" rail operations only require a Level 2 STA. Considering the risk of severity alone, it is difficult to understand the TSA's logic for mandating more stringent vetting requirements for drone package delivery operators carrying under ten pounds of goods by small, frangible aircraft than rail companies carrying thousands of pounds of hazardous materials.[21]

Obtaining a Level 3 STA would require applicants to travel to a TSA enrollment center for fingerprinting, costs which are unaccounted for in the NPRM, in addition to undergoing lengthy checks against criminal, immigration, and intelligence databases. In addition to the financial impact and employment barriers created by this requirement, TSA

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[21] *See generally* Transp. Sec. Admin., *Privacy Impact Assessment for the Security Threat Assessments of Certain Surface Transportation Employees* (July 13, 2023) https://www.dhs.gov/sites/default/files/2023-07/privacy-pia-tsa054-sta-july2023.pdf (assessing the impact of security threat assessments for frontline public transportation operators, railroad employees, and security coordinators for those entities as well as over-the-road-bus operators).

already faces capacity constraints in vetting personnel for other sectors of aviation and transportation that present much more serious risks to public safety and security. Adding tens of thousands of UAS-related applications would almost certainly overwhelm that system. The result would be inevitable delays in hiring, workforce disruptions, and increased costs for operators, without evidence of reduced risk. As noted above, this approach not only imposes unnecessary burdens on compliant drone operators but also risks diverting valuable TSA resources away from higher-value security functions.

The Regulatory Impact Analysis does not support this proposed requirement. It addresses the $87 fee for an individual to undergo an initial Level 3 STA (criminal history background check, immigration status, and intelligence-related databases and watchlists), a renewal (in-person $76 and online $51), and a comparability determination fee (not explained in the preamble) of $30. The CDA also notes that the preamble refers to TSA fee regulations contained in 49 CFR part 1572, subpart E, but that subpart does not contain any fee information. Further, there is no estimate provided for the number of individuals who would have to undergo this initial process or renewal annually, no aggregation of costs in the Regulatory Impact Analysis, and no consideration of the delay in the hiring process, loss of production, or paperwork burden for employer and employee, as well as the agency. These omissions render the Regulatory Impact Analysis inadequate with respect to the security threat assessment requirements in this proposed section.

The astronomical cost resulting from the excessive and unwarranted scope of the TSA's proposed security requirements for personnel poses the risk of offsetting all of the benefits to the drone industry in this proposed rule. The provision replacing the Pilots Records Improvements Act ("PRIA") and Pilot Record Database ("PRD") requirements with a STA for the operations supervisor and flight coordinators would be an improvement, but mandating an STA for all individuals who have unescorted access to the aircraft or the cargo loaded for transport would be devastating to the industry. In addition to creating a quagmire of logistical and implementation impediments, this requirement is not proportionate to or necessitated in any way by the risk and security profile of UAS operations. In CDA members' respective operations that cumulatively amount to millions of commercial drone flights around the world, there have been zero security incidents over the last decade of operations. As such, the cost burden and impact to American UAS operations would overwhelmingly outweigh any possible envisioned security or safety benefit. Such regulatory burdens are wholly inconsistent with the Administration's goals of fostering enabling regulations while reining in unnecessary and unjustified regulatory burdens without meaningful and proven public benefit.

Finally, the proposed scope and degree of vetting requirements will not mitigate the alleged risks that CDA assumes the TSA is intending to address, though again they are not articulated in the proposal. As noted above, the likelihood of a bad actor infiltrating a company to gain access to its highly automated UAS or its operations is minimal compared to the ease of acquiring a consumer off-the-shelf drone or even developing a homemade drone for malicious purposes. The proposed vetting requirements will impose a heavy burden on legitimate operators while doing little to address the broader security

risks associated with UAS technology. A more targeted and risk-based approach to personnel security would be far more effective and less disruptive to the nascent industry.

Change 5.1: Remove the Security Threat Assessment Requirement

Given the high degree of UAS automation expected under this rule, the CDA recommends that the Security Threat Assessment requirement be removed from the final rule. At a minimum, the CDA recommends limiting the definition of "covered persons" to operations supervisors and flight coordinators. This would serve the multiple goals of both the TSA and FAA in this rule in terms of ensuring security, creating predictability, and limiting unnecessary regulatory burden. Further, the CDA recommends limiting the degree of vetting to align with the current vetting procedures currently conducted for commercial drone operators under waivers and exemptions today. Ten years' worth of UAS operations with no reported security incidents from our members should be ample evidence that the current vetting practices for these operators is sufficient.

If any degree of operator vetting is retained in this rule, CDA strongly urges excluding certain personnel who already undergo background and security checks through other means, including: 1) personnel who already have airman or remote pilot certificates, 2) personnel who already have a security clearance or some kind of security access that has involved a criminal background check, as is the case for many personnel with access to critical infrastructure and who perform public safety missions, and 3) personnel who are government or public safety employees.

(ii) §§108.440(i) and 108.565(f) Security Programs

The CDA is equally alarmed at the proposed requirement for package delivery operators to implement and receive approval of a Limited TSA Security Program under § 108.440(i) and § 108.565(f) and vigorously opposes this requirement, which would impose significant and unnecessary burdens on existing and future beneficial UAS operations. This requirement is clearly a legacy element of traditional cargo delivery aviation, and the TSA made no effort to understand the commercial drone package delivery industry and align regulatory burden to threat mitigation. Package delivery companies already implement robust security measures tailored to their specific operations using a combination of personnel compartmentalization, system automation, cyber hardening and best practices, and access controls.

First, the lack of specificity in the proposed Limited TSA Security Program creates significant uncertainty for operators and raises potential legal issues. The proposal does not clearly define what constitutes a "limited security program" or provide sufficient detail about the scope and application of the requirements. For example, while the proposal references elements of 49 CFR 1544.101(g), it does not explain how these requirements would be tailored to the unique characteristics of UAS operations. Indeed, many of the measures listed as potential requirements in the NPRM duplicate existing obligations under other frameworks, including Safety Management Systems, hazardous materials transport rules, and company-specific access control procedures. Operators have already invested heavily in a variety of risk-based safeguards which have been proven effective.

Imposing a one-size-fits-all program risks duplicating or conflicting with these existing practices. Additionally, there is no accompanying data-driven risk assessment to justify the imposition of these potentially high-cost requirements. Without a clear understanding of the risks being addressed and the proportionality of the proposed measures, it is difficult to evaluate whether these requirements would be necessary, effective, or even feasible.

To be clear, all operations proposed under the FAA portion of this NPRM are taking place today, safely and securely, without the imposition of any additional requirements from TSA. This is because security is already a business imperative for UAS operators, many of whom take extraordinary steps to ensure their operations remain hardened against human, physical, and cyber threats. As noted above, ten years and millions of flights with no security incidents to date suggests that these efforts are sufficient in maintaining security. This is also due in large part to the fact that requirements imposed by safety regulators such as the FAA also achieve security objectives. The TSA has provided no data or analysis to justify the proposed additional regulatory burden, beyond what the FAA already imposes, on package delivery operations, let alone other operations under the proposal which do not constitute transportation of either people or goods and arguably are beyond the scope of TSA's authority to regulate. Such an expansion would also contradict the deregulatory intent of this rule, which was designed to streamline and facilitate UAS operations rather than impose new layers of regulation.

Similar to the inadequacies outlined in the previous section, the Regulatory Impact Analysis does not include an estimate of the costs of adopting and maintaining a limited security program, which this proposed section and proposed §1544.101 would require. [22] A limited security program must comply with subparts C (operations), D (threat and threat response), and E (screener qualifications) of §1544.305 (comprising 22 requirements, many of which have no application to drones conducting package delivery), and meet the requirements of Subsection 1544.103(c). This omission renders the Regulatory Impact Analysis inadequate also with regard to the security requirements in 49 CFR part 1544, as well proposed Subsections 108.440(i) and 108.565(f).

The CDA is also concerned about TSA's resource capacity to implement these requirements. Like the vetting proposal, the NPRM does not discuss whether TSA has the resources and capacity to approve and monitor the potentially large number of security programs that would be required. Given the continued rapid growth of the commercial drone industry and the increasing number of BVLOS operations, it is unclear whether TSA has adequately assessed the administrative and logistical challenges associated with this proposed requirement, and whether overseeing the security of compliant commercial UAS operations is truly worth diverting such resources from airports and other modes of transportation.

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[22] *See* BVLOS NPRM at 38350 (cost associated with limited TSA security program described as "vary[ing] depending on the specific security program").

Finally, and most concerningly, the proposal demonstrates a general lack of understanding of how the commercial drone industry operates and the security practices already in use. It is clear from both the TSA's proposal and the examples of Limited Security Programs in use today that this program is used to manage risks in unique airport environments and in no way aligns with how commercial drones operate today, including package delivery operations. For example, package delivery drones are typically launched and recovered from distribution centers or local delivery hubs, not airports. Requiring access control and screening measures modeled after manned aviation could impose obligations that are both impractical and ill-suited to dispersed, ground-based operations.

Change 5.2: Adopt a more flexible, risk-based security framework that recognizes and incentivizes industry-driven security measures instead of prescribing one-size-fits-all security solutions that were developed for airport environments

As noted, the industry takes significant steps on an ongoing basis to ensure secure operations. Operators today exercise flexibility to leverage the appropriate security protections that align with their specific operational protocols. This could include a unique combination of security measures for each operator or even operating location, ranging from physical access controls and automation and cybersecurity measures to incident response plans, personnel vetting, and operational compartmentalization. The TSA should collaborate with the UAS industry on developing a risk-based framework, leveraging existing security measures to serve as a basis for validating an operator's risk level.

Particularly given there is no Congressional or statutory backing to support the application of Limited Security Program requirements to BVLOS operations, these requirements should be eliminated. Instead, the CDA strongly recommends that before attempting to regulate the industry, TSA establish a working relationship with the commercial drone industry. The agency and the industry can work together to develop a risk assessment framework and accompanying industry guidance, like how the TSA engages with the GA community, that enables operators to leverage existing security protocols and demonstrate that the totality of these measures amounts to a secure operation.

The preamble further states that "TSA is considering additional changes to security program applicability and requirements in a final rule." While the preamble lists several possible additional requirements (several of which are already included in the limited security program that the proposed rule would require part 108 operators to have), the security discussion in the preamble at pages 38373-38974 reads more like an Advanced Notice of Proposed Rulemaking ("ANPRM"), rather than an NPRM. The CDA strongly recommends the final rule does not include amendments to parts 1540 and 1544 (and remove proposed Subsections 108.440(i) and 108.565(f)), and that TSA undertake a separate notice-and-comment rulemaking with a separate Regulatory Impact Analysis. The CDA looks forward to engaging and contributing to this effort.

VI. Other Opportunities for Increased Flexibility

(i) Part 108, Subpart B

- **§108.150 Operating location.** The CDA urges the FAA to clarify that "pre-designated" locations may be defined and managed through operator procedures and manuals without requiring site-specific FAA approval, thereby allowing operators to scale networks. Additionally, "access-controlled" should be interpreted flexibly to allow for safety-based controls tailored to the scale and nature of the operation, including signage, fencing, electronic surveillance, and procedural safeguards. FAA should further confirm that ground personnel who are not tied to a specific flight (e.g., maintenance staff, facility staff, and logistics personnel that routinely work in takeoff and landing areas to support safe, continuous operations) may be present in the operating area when appropriately trained and accounted for under the operator's procedures, even if they are not actively participating in the operation. Limiting access only to those directly participating in a given flight would be unworkable in scaled operations and inconsistent with how traditional aviation airside areas function.

- **§108.200 Operational status broadcast.** The proposed rule introduces an additional, non-standardized range requirement for Broadcast Remote ID, mandating transmission "at a range sufficient to provide situational awareness to others" (14 CFR §108.200(a)(4)). This requirement lacks a defined, operational, or standards-based method for compliance, and its safety rationale is unclear given existing right-of-way rules and aircraft-to-aircraft mitigation systems. Implementing a change to Broadcast Remote ID could necessitate costly retrofitting or redesign of current drone fleets to meet this undefined new standard. Further, there is no allowance in 14 CFR part 89, nor in FCC's service rules in 47 CFR part 15, to increase the output signal strength of broadcast remote identification transmitters, so there may be no technically achievable way for an operator to meet the requirement of §108.200(a)(4).

- **§108.205 Operation in shielded areas**. If the FAA adopts the CDA's recommendation and sets consistent right-of-way rules and equipage requirements below 500 feet, the CDA considers the need for shielded operations moot. Shielding is currently used as a mitigation for air risk in myriad operations conducted via waiver and exemption; however, this mitigation ceases to be necessary with the requirement for all drones to yield to cooperative aircraft and all aircraft to be cooperative. CDA members who are utility companies currently deconflict manned and unmanned aircraft who are conducting inspections of their infrastructure by requiring all aircraft to be cooperative and deconflict, and CDA believes this is the safest, most expedient, and most cost-effective solution.

In the event the FAA does not adopt the CDA's recommendation for consistent right-of-way rules, we urge the FAA to reconsider the proposed requirement to obtain permission from the facility or infrastructure owner. Our members who are utilities have expressed that this would be infeasible to implement consistently and would not result in the FAA's intended risk mitigation. Additionally, the FAA has granted many waivers for inspection operations that extend beyond 50 feet from a facility, often out to 100 or 200 feet, without the requirement for such pre-coordination. Additionally, 14 CFR §91.119 specifies minimum safe altitudes for general aviation operations, which includes a requirement for aircraft to remain at least 500 feet to any person, vessel, vehicle, or structure.

The CDA reiterates its strong preference for universal EC below 500 feet for all manned aircraft, which would obviate the need for shielding. However, if the FAA does not adopt this recommendation, the CDA strongly recommends the FAA align §108.205 with the waivers and exemptions being issued today to leverage shielding as a mitigation within 200 feet of a structure.

- **§108.210 Operation of multiple unmanned aircraft.** The CDA urges the FAA to leverage industry consensus standard through the manufacturing process to enable more scaled operations of many UA to one flight coordinator. The FAA correctly surmises that this is a critical element in enabling scalable BVLOS operations in the future. The CDA believes the only way the FAA will reasonably be able to scale oversight of such operations is to evaluate UAS platforms that are designed to support 1:many operations, rather than conducting individual validation tests for every operator. The FAA should reconsider the scalability of this provision and instead apply its oversight resources at the point of design and manufacture, rather than operation.

(ii) Part 108, Subparts D & E

- **§108.570 Hazardous materials.** The CDA urges the FAA and PHMSA to develop a framework that maintains safety standards while reducing unnecessary procedural, documentation, training and infrastructure requirements for drone operators carrying small amounts of household goods that are categorized as dangerous goods (DG) under current Hazardous Materials Regulations (HMR). The proposed requirements of § 108.570 are overly burdensome in light of the risk profile of UAS operations and the types and quantities of hazardous materials ("hazmat") typically transported. The proposal effectively imports requirements designed for large, crewed aircraft carrying significant volumes of hazmat across long distances and at high altitudes. By contrast, UAS package delivery operations are characterized by: (1) small package sizes and low total quantities, (2) short duration flights at low altitude, (3) direct-to-destination logistics, avoiding multiple handlers and transfer points, (4) no onboard

personnel, and (5) low risk hazardous materials. PHMSA itself has issued a special permit recognizing that consumer commodities such as batteries, aerosols and small flammable liquids can safely move outside the HMR framework when in their retail packaging and limited in aggregate quantity.[23]

This framework should focus on risk-mitigating operating procedures and appropriate equipment usage. While we understand the intent of conducting operation-specific analysis via an SRA to ensure operators consider all appropriate hazards for the safe transportation of hazmat, § 108.570(b) and (g) of the NPRM require extensive documentation and procedures to accept the transport of DG items via drones. Those procedures and documentation are typically associated with transporting DG via traditional aircraft operations. Because the carriage of DG via drones presents lower safety risks than crewed aircraft operations, a less restrictive regulatory approach is warranted. Drone delivery operations differ fundamentally from traditional aircraft operations in its safety risk profile based on several factors, including reduced human exposure and smaller packages. Given these factors, drone operators should face fewer regulatory burdens relative to manned aircraft.

Further, the FAA should accept part 135 drone operators that have an FAA-approved hazardous materials training program and an FAA-accepted hazardous materials manual. It should focus its efforts on evaluating new applicants seeking to enter the market, rather than evaluating approved operators with a proven safety record a second time.

- **§108.450/108.580 Aerial survey operations and 108.455/108.585 Civic interest operations.** The FAA should consider recategorizing critical infrastructure inspection operations to align with the civic interest category of operations. Inspection of critical infrastructure and adjacent operations more closely aligns with the spirit of civic interest operations in that critical infrastructure inspection operations support a more general societal good that is distinct from photography, videography, mapping, and patrolling operations. Such operations are also generally performed by or in support of heavily regulated entities that, similar to public safety and conservation efforts, are held to higher safety standards through other regulations or public expectations. This re-alignment would also support prioritization for and streamlined waivers, deviations, or authorizations in support of emergency and disaster response operations, both of which are more frequent in critical infrastructure environments than general aerial survey operations.

[23] *See* Pipeline and Hazardous Materials Safety Admin., *DOT-SP 21427* (July 2, 2025), https://www.phmsa.dot.gov/hazmat/documents/offer/SP21427.pdf/offerserver/SP21427.

- **§108.455/108.585 Civic interest operations.** The FAA should remove the requirement for civic interest operations to be performed by entities under government contract. This excludes a significant segment of truly beneficial operations for general societal benefit that are performed by organizations that have no official government contract. This could include Emergency Medical Services (EMS), search and rescue organizations, and a variety of other non-governmental organizations that are relied upon to support governmental entities in unofficial capacities on a routine basis. This limitation restricts such operations with no clear safety basis in the proposed rule.

  Additionally, the scope of civic interest operations should be expanded to include wildfire fighting, delivery of emergency medical supplies, search and rescue operations, and other public safety and civic interest adjacent operations that would potentially conducted by public safety organizations, in addition to the change proposed above to realign critical infrastructure inspection operations under the civic interest category.

- **§108.460 Unmanned aircraft operations training.** The FAA should consider creating a certificate option for operations training. UAS operations training organizations are an emerging business model in the UAS industry, and it is reasonable to expect that such training organizations should be held to a higher standard. Additionally, such training operations typically occur in an operationally equivalent environment as normal operations, and it is reasonable to expect the organizations conducting such training to be appropriately qualified to operate in an equivalent environment as all other certificated operators.

- **§108.445/575 Agricultural operations.** The CDA strongly supports expanding the scope of agricultural operations to include ferry flights and other agricultural adjacent operations.

- **Cargo delivery.** The preamble states that the FAA contemplated a cargo delivery category under the proposed rule but ultimately opted not to pursue such category because the Agency was unsure of the demand. Cargo delivery operations that could occur under this rule differ substantially from the package delivery operations currently contemplated under the proposal. There is market demand to support the creation of a cargo delivery category of permitted and/or certificated operations with UA weighing up to 1,320 pounds. Several companies and organizations are currently testing both aircraft and operational concepts to conduct such delivery. Use cases for such operations include delivering medical supplies, basic necessities, and potentially organ delivery to rural and remote areas. While these operations can occur safely in a wide variety of environments, the risks to persons and property on the ground can be adequately addressed through the airworthiness acceptance process, and, if necessary, additional operating limitations regarding proximity to people and property.

- **Environmental Review Procedures and the National Environmental Policy Act (NEPA).** The CDA strongly supports the FAA's efforts to streamline environmental review procedures to facilitate the growth of UAS package delivery operations, including in the context of this rulemaking. Specifically, the CDA supports leveraging the nationwide Environmental Assessment (EA) currently under development to create a programmatic framework for UAS operations, in line with Congress' directive in the FAA Reauthorization Act of 2024.[24] Clear communication regarding the environmental review timeline and approach is also necessary during the rulemaking to support informed business decisions by UAS operators.

(iii) Part 146

- **Operational Prioritization.** The prioritization scheme described in AC 146-1 anticipates future drone activity, but the granularity in the framework is not supported by today's operations. Over-structuring prioritization levels may lead to a measurable loss of economic opportunity. Instead, changes to a prioritization scheme should be operationally driven, taking lessons learned from industry's UTM Implementation consortium. A simplified two-level prioritization framework is currently being implemented and will provide the FAA data about future updates to the prioritization framework. The CDA recommends the FAA adopt the two-level framework for now and update the AC as demand dictates through coordination with industry.

- **Additional SPSOs.** The CDA urges the FAA to publish additional Service Provider Standard Orders (SPSOs) in the proposed Advisory Circular (AC) 146-1that represent the range of capabilities that ADSPs could offer under Part 146. SPSOs are vital to clarify the standards for service authorization applications in order to comply with § 146.205. Specific guidance streamlines the application process, simplifying the process for applicants, and decreasing the workload of the FAA. Without such guidance, ADSPs would not have clear guidance on safety and compliance standards, which would create gaps in safety mitigation understanding, impose unnecessary costs, and delay the deployment of integral UTM services.

- **Transition from NTAP.** The FAA should outline a clear transition plan for service providers eligible for part 146 authorization that have already completed the Near-Term Approval Process (NTAP) and have received an LOA. This plan could be included within AC 146-1, as it will not be a permanent issue. We urge that this transition plan specify what elements of part 146 are not required under the NTAP process and ensure that the FAA only reviews the areas of part 146 authorization that were not already reviewed during NTAP. Service providers already approved under NTAP have been integral to the development of UTM and the education for this

[24] *See* FAA Reauthorization Act of 2024, Pub. L. No. 118-63, tit. IX, § 909(c) (2024).

rule and the FAA through offering insight and data to ensure the safety of the NAS. Ensuring a smooth path from NTAP to part 146 must not be duplicative of processes already undergone by these providers, as that would cause unnecessary financial and operational burdens for industry leaders who have already undergone majority of this process.

VII. Economic Considerations

The CDA finds that the TSA and FAA have significantly underestimated the costs of compliance with their respective proposals.

(i) Underestimated TSA Requirements

1. As stated above under Priority 5, the Regulatory Impact Analysis is wholly inadequate with regard to the costs of compliance for these two sets of requirements. Neither the preamble nor the Regulatory Impact Analysis estimates how many individuals would be "covered persons" under proposed §108.335 required to undergo a security threat assessment and pay several fees, as well as lost time experienced because of administrative burdens, often for positions that are seasonal in nature. As drafted, this could be tens of thousands of individuals or more, and yet these aggregated costs are not included in the Regulatory Impact Analysis.

2. Additionally, the Regulatory Impact Analysis does not include an estimate of the costs of adopting and maintaining a limited security program, which proposed section § 108.440(i) and § 108.565(f) would require. The astronomical cost resulting from the expansive and excessive scope of the TSA's proposed security requirements could apply to countless individuals, both associated with the UAS drone delivery operating personnel and others completely unrelated. The cost burden and impact to American UAS operations would overwhelmingly outweigh any possible envisioned security or safety benefit. This disproportionate and unnecessary cost would be devastating to the drone delivery operators and put the industry at an unfair competitive disadvantage to ground delivery, which is not subject to any of these requirements despite having a similar business model. Moreover, these stringent requirements would very likely be out of reach for rural workforces, which would hinder the ability to serve a wider variety of communities.

(ii) Underestimated FAA Requirements

1. The FAA provides no cost estimate for the requirement in §§108.185 and 108.190 for drones to equip with non-cooperative DAA in Class B and C airspace and over Category 5 population density areas. This would impose a requirement beyond what is required for the same operations conducted under waivers and exemptions today. As stated above, the CDA estimates the cost of such a requirement could amount to anywhere from 1,000-30,000 USD per square mile of coverage applied to thousands of potential operators who

currently are approved to fly in such areas. It is hard to fathom a total cost of compliance less than many hundreds of millions of USD.

2. Further, the FAA fails to appropriately compare this cost to the alternative, which would be to require all manned aircraft to be electronically conspicuous below 500 feet and require all unmanned aircraft to give way to them. Based on all currently available information, a high estimate of associated costs for this alternative is likely less than 50 million USD. This analysis also does not account for the expected safety benefits resulting from increased electronic conspicuity in the airspace more broadly. This could be accounted for by determining annual accidents resulting from midair collisions where one or both aircraft were not electronically conspicuous.

3. Given the limitations on permitted operations in the proposal that would force many small businesses to comply with the certificate requirements, the FAA significantly underestimates the compliance costs for certificated operations. Many of the waivers assumed to be enabled through operational permits in the proposal's Regulatory Impact Analysis would in fact need to be certificated without the CDA's proposed changes.

4. Given the design requirements in the proposal, specifically those contained in proposed §§ 108.810, 108.825, 108.840, 108.845, 108.855, 108.870, 108.880, 108.910, 108.920, and 108.185(d)(2), the FAA significantly underestimates the compliance costs associated with redesigning and replacing current fleets to comply with the proposal. Each of these requirements would impose a need to effectively redesign—at significantly higher costs that would result in substantially heavier aircraft—and ultimately replace existing fleets. While replacement costs could be distributed over time, redesign costs should be captured as both up front and continuing costs.

(iii) Unlocking the Low Altitude Economy

While the proposal provides some appropriate estimates for specific areas of cost savings regarding safety, health, and industry economics, it fails to adequately capture the potential benefits, and conversely the opportunity costs, of failing to modernize the U.S. low altitude airspace. This continued obsolescence has profound safety, security, economic, and global competitiveness costs. Meanwhile, our foreign adversaries are not only adapting to these technological changes, but they are also rapidly adopting them. According to a recent *Economist* article (June 2025):

> *Last year [drones] delivered around 2.7m packages in China (not including meals). China Post uses them to spare couriers the ferry ride required to make deliveries to residents of islands in Fujian province. Dozens of cities around the country transport blood to medical facilities by drone. A quarter of a million drones spray fertiliser and pesticides on farmland. Other fleets extinguish fires in high-rises,*

monitor drug-smuggling along borders and transport medical tests to laboratories.[25]

China has specifically created a low altitude economy initiative, with an accompanying government department to focus on "safety supervision, business development and the construction of ancillary infrastructure."[26] This is in turn prompting new university programs in STEM subjects such as "low altitude technology and engineering," as well as attention from investors.

While the commercial UAS industry is delivering significant economic and societal benefits every day, it will remain stunted if the United States does not seize this moment to incentivize technological innovation. Solutions exist to preserve privacy while reducing risks. At this point, the cost of inaction is unacceptable. America's friends and foes are taking critical steps to unlock the societal potential of UAS and advanced air mobility solutions. Americans must decide if we want to remain at the forefront of aviation in the 21st century or cede our leadership to the rest of the world.

VIII. Conclusion

The CDA appreciates the opportunity to provide feedback to the FAA and TSA on its NPRM. Our members look forward to continuing our critical work with the federal government to ensure that BVLOS drone operations can scale here in the United States, for the benefit of the American public. American leadership in the drone economy depends on it.

Signed:

Liz Forro	*Lisa Ellman*
Liz Forro	Lisa Ellman
Policy Director, CDA	CEO, CDA

[25] *China's Low Altitude Economy is Taking Off*, The Economist (June 12, 2025), https://www.economist.com/briefing/2025/06/12/chinas-low-altitude-economy-is-taking-off.

[26] *Id.*