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U.S. Policy Trends on Advanced Air Mobility: Part 5

~ Development of the Roadmap for AAM TC, Issuance of the AC on Powered-Lift TC, and Final Rule of MOSAIC ~

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1. Overview

In June 2025, five national authorities, including the U.S. Federal Aviation Administration (FAA), published a roadmap for type certification of Advanced Air Mobility (AAM)[1]. In July 2025, the FAA formally issued an Advisory Circular on type certification of powered-lift[Note 1) 2)], and also published the Final Rule on the Modernization of Special Airworthiness Certification (MOSAIC)[3)4)].

This report provides an overview of these recent U.S. government policy developments related to AAM.

2. Development of the Roadmap for AAM Type Certification

Source: Excerpt from Roadmap for Advanced Air Mobility Aircraft Type Certification (Edition 1.0)[1]

Figure 1: Roadmap for Advanced Air Mobility Aircraft Type Certification (Edition 1.0)

As previously noted in the author's earlier presentation[5], in July 2022, the National Aviation Authorities (NAA) Network was launched among the aviation authorities of the United States, the United Kingdom, Canada, Australia, and New Zealand. This network was established to share approaches to regulation, best practices, and cooperation in emerging technology areas[6]. On June 17, 2025, the Roadmap for Advanced Air Mobility Aircraft Type Certification (Edition 1.0), developed by the authorities of these five countries within the NAA Network framework, was released[1]. This roadmap provides a unified framework for AAM type certification, beginning with an overview of the regulatory status of each NAA Network authority regarding AAM certification (Table 1).

Table 1: Status of AAM Certification Regulations of Each Authority

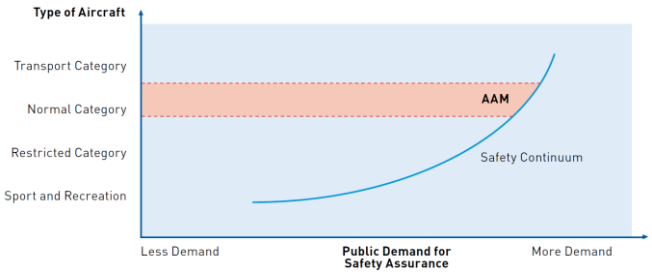
Authority	Status of AAM Certification Regulations
United States (FAA)	Under 14 CFR 21.17(b), the powered-lift certification basis is developed on a project-by-project basis. The FAA has published draft general interim airworthiness criteria for powered-lift in Advisory Circular (AC) 21.17-4, Type Certification – Powered-lift, and issued Policy Statement PS-AIR-21.17-01, Safety Continuum for Powered-lift, which establishes certification levels including corresponding safety targets. In addition, the FAA issued Policy Statement PS-AIR-21.17-02, Special Class Rotorcraft, which identifies certain rotorcraft as a special class based on their designs.

Australia (CASA)	CASA will use their equivalent regulation to 14 CFR 21.17(b) to establish the type certification basis for special class aircraft supplemented with airworthiness criteria as required. FAA published airworthiness criteria will be used, and additional or modified airworthiness criteria may be developed for any requirements unique to the AAM under type certification.
Canada (TCCA)	TCCA will use their equivalent processes and regulations to 14 CFR 21.17(b) to establish the type certification basis for AAM aircraft supplemented with airworthiness criteria as required. FAA published airworthiness criteria may be used, and additional airworthiness criteria may be developed for any requirements unique to the AAM under type certification.
New Zealand (CAA NZ)	CAA NZ will utilize the flexibility within the New Zealand regulatory framework to accept appropriate airworthiness design standards on a case-by-case basis.
United Kingdom (UK CAA)	The UK CAA has adopted the European Union Aviation Safety Agency (EASA) SC-VTOL as the prescribed airworthiness standards for type certifying AAM. NAA Network coordination and alignment with the UK CAA on common airworthiness standards is critical, considering the differences that currently exist between SC-VTOL and the airworthiness criteria prescribed in FAA AC 21.17-4.

Source: Created based on Roadmap for Advanced Air Mobility Aircraft Type Certification (Edition 1.0)[1)]

On that basis, the roadmap sets out six principles for the NAA Network authorities to pursue.

- Principle 1, Safety and Innovation: Balance safety standards with technological advancement and promoting innovation within a safety-first framework.
  - Apply the concept of the "Safety Continuum" advocated by the International Civil Aviation Organization (ICAO), a concept whereby societal demands for safety increase as products and operations become more complex, to type certification of AAM.
  - Use existing airworthiness standards such as 14 CFR Part 23 (Normal Category Airplanes) as the starting point, supplemented as necessary by AC 21.17-4 or SC-VTOL.



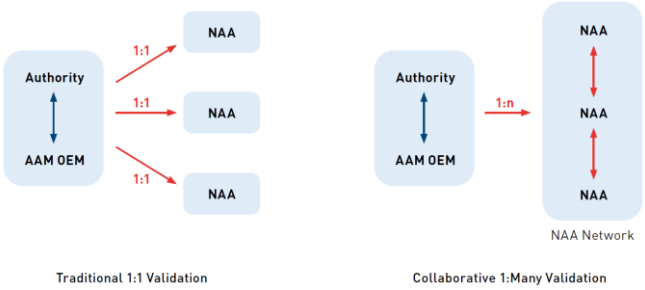
Source: Excerpt from Roadmap for Advanced Air Mobility Aircraft Type Certification (Edition 1.0)[1)]

Figure 2: Illustrative Application of the Safety Continuum to AAM Aircraft

- Principle 2, Harmonized Type Certification: Develop a three-phase approach focusing on use of performance-based requirements, seeking convergence on requirements where differences exist, and applying mutually accepted Means of Compliance to achieve the streamlined validation of AAM aircraft across the NAA Network.
  - Performance-based requirements leveraging the latest revision of 14 CFR Part 23 or CS-23.
  - Acknowledging that differences exist primarily between AC 21.17-4 and SC-VTOL, while seeking harmonization.
  - In the five active projects underway with the FAA, approximately 60% of the certification requirements are based on existing standards, and about 40% are newly established for AAM.
  - Coordinate participation in the AAM related work of industry Standards Development Organizations (SDOs) and seek to use industry consensus standards as Means of Compliance.

- Principle 3, Collaboration and Alignment: Foster collaboration within the NAA Network, including parallel alignment with UK CAA, and coordination with other key Authorities that have active domestic AAM certification projects.
  - The exchange of Means of Compliance information between the NAA Network as part of this validation activity is a key initiative to reduce overall validation effort.
  - However, some Means of Compliance will be subject to Intellectual Property considerations as they may contain an AAM OEM's propriety information. In such cases, the type certifying Authority will need to identify this constraint to the validating Authority and agree a workaround.

alignment in the application of Means of Compliance and Industry Consensus Standards across the Network, through practical validation activities.



Source: Excerpt from Roadmap for Advanced Air Mobility Aircraft Type Certification (Edition 1.0)[1)]

Figure 3: The Case for Collaborative Multi-Authority Validation

- Principle 4, Collaborative Multi-Authority Validation: Leverage opportunities for multi-authority collaborative validation of AAM aircraft undergoing type certification by one of the NAA Network authorities.
  - The important objective of this approach is the reduction of validation burden for authorities and the OEM involved in the multi-validation activity. Ideally this would be implemented through a "one-to-many" collaborative program between the type certifying Authority and the validating Authorities, such that the type certifying Authority can communicate and exchange type certification information once to all validating Authorities and that the validating Authorities work together to coordinate requests for validation information and integrate their validation work into the type certification program in an efficient and collective manner.
  - One advantage of this approach is that Authority efficiencies can be realized in the immediate term whilst bilateral agreements are reviewed and updated. Another advantage of this approach is to enable the convergence of airworthiness requirements and facilitate

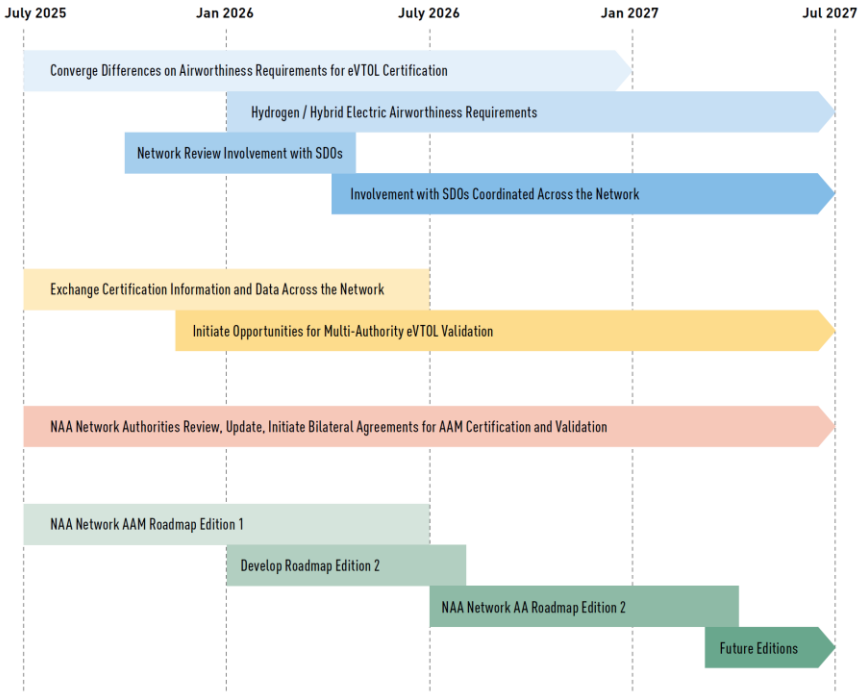
- Principle 5, Incremental Approach: Recognize a crawl, walk, run approach for type certifying AAM aircraft, building first on piloted AAM, and then remotely piloted AAM with increasing levels of autonomy.
  - Airworthiness criteria will be incrementally developed according to the three primary technology phases of piloted AAM, remotely piloted AAM, and autonomous AAM.
  - When coupled with acceptable means of compliance that leverage industry consensus standards, and collaboration across the NAA Network, the resources and time expenditure required to support certification and validation effort should be expected to decrease over time.

- Principle 6, AAM Inclusive Bilateral Agreements: Establish guiding principles and a comprehensive process for establishing new bilateral agreements and updating existing bilateral agreements, specifically regarding type certification and streamlined validation of AAM aircraft.
  - Create a unified process that prioritizes validation effort towards the differences in certification standards, accepts the type certifying Authorities findings of compliance

where there are no differences, promotes the exchange of Means of Compliance, and leverages efficiencies through multi-validation teams. Consider adding new members to the Network.

- The use of a special arrangement, subordinate to the bilateral agreement, may be considered as an expedient way to align the principles of this roadmap between two Authorities whilst the longer-term update to the bilateral agreement is made.

Where required, the NAA Network will develop an implementation plan to ensure that these six principles are effectively implemented, and a timeline associated with implementing the principles is presented (Figure 4).

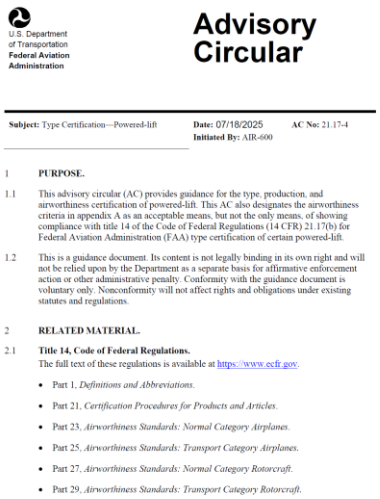


Source: Excerpt from Roadmap for Advanced Air Mobility Aircraft Type Certification (Edition 1.0)[1)]

Figure 4: Roadmap Timeline of Activities

3. Issuance of the Advisory Circular on Powered-Lift Type Certification

As mentioned in the previous report[7)], the FAA published a Draft AC on powered-lift type certification[8)] in June 2024. Taking into account the comments submitted (the submission deadline was extended from August 12, 2024, to September 12, 2024[9)]) and other inputs, the Draft AC was revised and subsequently issued on July 18, 2025, as AC 21.17-4, Type Certification – Powered-lift[2)].


U.S. Department of Transportation
Federal Aviation Administration

Advisory Circular

Subject: Type Certification—Powered-lift **Date:** 07/18/2025 **AC No:** 21.17-4
Initiated By: AIR-600

1 **PURPOSE.**

1.1 This advisory circular (AC) provides guidance for the type, production, and airworthiness certification of powered-lift. This AC also designates the airworthiness criteria in appendix A as an acceptable means, but not the only means, of showing compliance with title 14 of the Code of Federal Regulations (14 CFR) 21.17(b) for Federal Aviation Administration (FAA) type certification of certain powered-lift.

1.2 This is a guidance document. Its content is not legally binding in its own right and will not be relied upon by the Department as a separate basis for affirmative enforcement action or other administrative penalty. Conformity with the guidance document is voluntary only. Nonconformity will not affect rights and obligations under existing statutes and regulations.

2 **RELATED MATERIAL.**

2.1 **Title 14, Code of Federal Regulations.**
The full text of these regulations is available at https://www.ecfr.gov.

- Part 1, *Definitions and Abbreviations.*
- Part 21, *Certification Procedures for Products and Articles.*
- Part 23, *Airworthiness Standards: Normal Category Airplanes.*
- Part 25, *Airworthiness Standards: Transport Category Airplanes.*
- Part 27, *Airworthiness Standards: Normal Category Rotorcraft.*
- Part 29, *Airworthiness Standards: Transport Category Rotorcraft.*

Source: Excerpt from Advisory Circular No. 21.17-4, Type

Certification – Powered-lift[2)]

Figure 5: AC 21.17-4, Type Certification – Powered-lift

The main changes in AC 21.17-4 compared to the Draft AC are as follows:

- Regarding the "essential performance" and "increased performance" approvals included in airworthiness criteria for powered-lift in Appendix A, Section 4.6 specifies that the "increased performance" approval is optional. In this respect, the Draft AC contained language stating that for powered-lift intended for passenger transport, the FAA expected applicants to seek "increased performance" approval; however, this language was deleted in AC 21.17-4.
- With respect to Section 5.2 on the applicability of airworthiness criteria for powered-lift in Appendix A, it was clarified that Appendix A currently assumes electric engines that produce shaft power, and that Subpart I lacks requirements for electric engines with integrated propulsors; therefore, such engines are not addressed in this AC.
- Since the type certification airworthiness standards for propellers assume that the propeller primarily produces forward thrust while the wing provides lift, a definition of "engine-driven lift device" was added in PL.2000(b)(8) for propellers used to provide lift, and other criteria were revised to clarify the standards applicable to such engine-driven lift devices.
- Regarding PL.2110 Minimum safe speed, the provision was revised to be more inclusive and aligned with the characteristics of powered-lift aircraft, and to harmonize with EASA's requirements. Specifically, the title was changed to "Flight profiles", and the requirement was revised to call for the determination of "flight profiles" that include not only speeds but also other critical flight parameters. (Other requirements in Subpart B were also revised to better reflect powered-lift characteristics.)
- In response to comments on PL.3370 that the Flight Critical Parts Program must go beyond engine and propeller parts/components and identify and include all Flight Critical Parts on the complete air vehicle, FAA added a new PL.2250(f) to address such critical parts.
- For some of the criteria in Subpart H, the wording was revised to allow integration with the existing criteria in Subpart B (e.g., PL.2707 Trim and PL.2709 Stability and handling qualities).
- Considering cases where the engine is type-certificated together with the aircraft, references throughout Appendix A to an "engine installation manual" were revised to "must be documented in accordance with the requirements in PL.3305," or equivalent expressions.

This AC is expected to serve as the basis for airworthiness criteria in the type certification of powered-lift going forward. However, in its responses to submitted comments, the FAA also noted the possibility of revising this AC in the future, including to address requirements for integrated-propulsor electric engines as mentioned above, depending on necessity and technological advancements.

4. Final Rule of the MOSAIC

As mentioned in the previous report[7)], the FAA issued a Notice of Proposed Rulemaking (NPRM) on the Modernization of Special Airworthiness Certification (MOSAIC) in July 2023[10)]. Under the FAA Reauthorization Act of 2024[11)], the FAA was required to publish the corresponding Final Rule within 24 months of the enactment of the law. Subsequently, based on more than 1,300 comments submitted on this NPRM (with the deadline extended twice[12)13)] from October 23, 2023, to March 11, 2024), the proposed rule was revised. On July 22, 2025, at the EAA AirVenture (an air show hosted by Experimental Aircraft Association) in Oshkosh, Wisconsin, U.S. Secretary of Transportation Sean P. Duffy announced the Final Rule[3)], accompanied by FAA Deputy Administrator Chris Rocheleau and Rep. Sam Graves (R-MO), Chairman of the House Transportation and Infrastructure Committee, who was involved in setting the deadline for issuance of the MOSAIC Final Rule in the FAA Reauthorization Act of 2024. The Final Rule was

subsequently published in the Federal Register on July 24, 2025[4].

In this Final Rule, a wide range of changes were made from the NPRM, including, for example:

- With respect to aircraft eligible for a Special Airworthiness Certificate in the Light-Sport Category, the NPRM had proposed to relax the limit on the maximum stalling speed or minimum steady flight speed without the use of lift-enhancing devices (V_{S1}) for airplanes from 45 knots CAS to 54 knots CAS. In the Final Rule, however, the limit was revised to 61 knots CAS for the maximum stalling speed or the minimum steady flight speed in the landing configuration (V_{S0}) for airplanes, and 45 knots CAS for V_{S0} in gliders.
- Regarding the conditions for Light-Sport Category aircraft, the wording "primary flight controls" was deleted so that the rule also applies to aircraft equipped with simplified flight controls.
- The NPRM had proposed to apply the noise requirements of 14 CFR Part 36 to most Light-Sport Category aircraft, but in the Final Rule, compliance with Part 36 was made voluntary for Light-Sport Category aircraft.
- With respect to aircraft eligible to be operated by holders of a Sport Pilot Certificate, the NPRM had proposed to relax the limit on the maximum stalling speed or minimum steady flight speed without the use of lift-enhancing devices (V_{S1}) for airplanes from 45 knots CAS to 54 knots CAS. In the Final Rule, however, the limit was revised to 59 knots CAS.

These changes further expand the framework for Light-Sport Aircraft (LSA) compared to the NPRM proposal. At the same time, the restrictions remain as in the NPRM proposal, namely, that unmanned aircraft are excluded from LSA, and that non-airplane categories are limited to a maximum of two seats (including the pilot's seat).

As a result of this regulatory amendment, eVTOL aircraft such as the two-seat Axe[14], currently under development by Skyfly Technologies in the United Kingdom, as noted in the previous report[7], and the two-seat AIR ONE[15], currently under development by AIR VEV in Israel, are expected to be eligible for treatment as LSAs in the United States.

5. Conclusion

This report has outlined recent developments in U.S. policy on AAM, specifically the development of a roadmap for AAM type certification by the NAA Network, the issuance by the FAA of an Advisory Circular on powered-lift type certification, and the publication of the final rule on the modernization of special airworthiness certification. While rulemaking on AAM has made significant progress based on the directions set forth in the FAA Reauthorization Act of 2024, international cooperation on aircraft certification is also advancing. Continued attention will therefore be required to monitor the evolving U.S. government policies on AAM.

Notes

Note 1) According to 14 CFR §1.1, a powered-lift is defined as a heavier-than-air aircraft capable of vertical takeoff, vertical landing, and low speed flight that depends principally on engine-driven lift devices or engine thrust for lift during these flight regimes and on nonrotating airfoil(s) for lift during horizontal flight.

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