



Standard Practice for Application of Federal Aviation Administration (FAA) Federal Aviation Regulations Part 21 Requirements to Unmanned Aircraft Systems (UAS)¹

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INTRODUCTION

STRUCTURE AND ASSUMPTIONS

Introduction—This standard practice (SP) document uses 14 CFR Part 21 as a template, retaining all sections of Part 21, many of which will not be altered by the incorporation of certification procedures for Unmanned Aircraft Systems (UAS). The UAS certification procedures that have been inserted into the Part 21 template may, therefore, be seen in the context of procedures prescribed for other civil air vehicles that undergo airworthiness certification. The resulting document is perhaps misnamed as a “standard practice” since it is, in fact, a prototype for a future version of Part 21 that will accommodate UAS airworthiness certification. Anticipating this future version of Part 21, the SP provides a framework for other ASTM standards development and standard-practice initiatives related to UAS certification.

Scope of Changes to Part 21 Text—This version of the SP provides certification procedures for unmanned aircraft systems in the light UAS class and in the Remotely Operated Aircraft (ROA/UAS) Class. Unmanned aircraft systems in the mini UAS and micro UAS Classes are not considered in this SP.

Certification Pathways—The SP anticipates that light UAS and the larger ROA/UAS will follow distinctly different certification procedural pathways:

- Light UAS will be certified to consensus standards, in a process similar to that established for light sport aircraft in the current Part 21 (section 21.190). This process will lead to issue of a special certificate of airworthiness for the light UAS; and
- ROA/UAS will follow a conventional certification pathway described in Part 21, section 21.17(a), leading to issue of a type certificate as described in Part 21, section 21.21, and issue of a standard certificate of airworthiness under Part 21, section 21.183.

Applicable Requirements—The SP anticipates that the core requirements for the basis of certification for the light UAS and ROA/UAS classes will be based on published design/airworthiness standards that do not yet exist, specifically:

- Industry consensus standards for light UAS, prescribing airworthiness requirements for the issue of a Special Certificate of Airworthiness for the smaller UAS; and
- Regulator-approved Airworthiness Standards prescribing airworthiness requirements for the issue of type certificates and changes to type certificates for ROA/UAS UAS.

Special-Classes Certification Pathway—The SP retains the Part 21 concept of special classes aircraft, that is, “non-conventional aircraft for which airworthiness standards have not been issued under this Subchapter (14 CFR Subchapter C).” UAS fit well within this definition of the special classes, quoted here from Part 21, section 21.17(b); furthermore, the means for defining the “applicable requirements” for a UAS basis of certification are clearly stated in section 21.17(b). Use of this pathway for the early UAS certification candidates should be considered.