

# External Small Airplane All Categories Report

Product Type	Issue ID#	Category	Subject	Description
Small Airplane	A-0101	Airframe Loads and Flutter	Vinyl Covering Shrink Wraps on Exterior of Part 23 Airplanes, Gliders, and Airships	Applicants should be aware that the FAA has issued a memo stating there are safety issues with the installation of vinyl covering shrink wraps on the exterior of airplanes, gliders, and airships that are not present with other exteriors such as paint and deicing boots. These issues include hazards that are major to catastrophic, so the installation by FAA Field Approval is not acceptable. Only Federal Aviation Administration (FAA) Type Certificate (TC), Amended Type Certificate (ATC), and Supplemental Type Certificate (STC) are acceptable for this installation. This memorandum is not applicable to vinyl decals or logos that are placed on limited areas of the fuselage or empennage. The following are safety concerns with the installation of vinyl shrink wrap coverings that must be evaluated by the applicant for any TC/ ATC/STC application: 1. Without proper engineering evaluation and/or tests, vinyl shrink wrap cannot be placed on any control surface or control surface tab; a. without consideration of the effect on the flutter characteristics (whether the surface is mass balanced or not) and b. where that installation would change the existing clearance between adjacent surfaces with and without loading. 2. Scoring the skin of aircraft when cutting the vinyl sheets to fit, which can start cracks, particularly in pressurized aircraft. 3. Blocking of fuel vents, static ports, hinges, drain holes etc., making them inoperative or changing the airflow over static ports. 4. Use of an open flame from a blowtorch to apply the material. This is a concern around fuel tanks and vents, sensitive antennas, and especially on composite parts, which have cure temperatures well below the temperature of a blowtorch. 5. Covering required exterior aircraft markings and emergency exits. 6. Vinyl sheets losing adhesion on the surface or on rotating parts and jamming control surfaces or compromising engines. 7. Static build-up causing electrical discharges in or around fuel tanks and causing radio/navigation interference. 8. Tinting of windows and windshields with transparent vinyl, which compromises the view of pilots. 9. The impact on removal of ice build-up on critical surfaces. 10. Flammability of the material, including lightning strikes, and especially near engine exhausts and around engine nacelles. Flammability test specimens should be built-up from the cowlings/nacelle with the vinyl shrink wrap applied. 11. Peeling of the wrap from rain or hail. 12. Masking of cracks and corrosion in structure and skin. 13. Lifetime of a vinyl shrink w/Tap installation. How long before mandatory removal. 14. Effects of de-ice fluids on the film. The policy memo is available upon request.
Small Airplane	A-0201	Structures	Additive Manufacturing	Additive Manufacturing (AM) is a relatively new manufacturing process and describes the process of joining materials to make objects from three dimensional (3D) model data using a sequential layering process. This manufacturing technique is sometimes referred to as 3D printing. AM is a generic term that spans a diverse range of techniques using a wide range of machines and technologies, such as Powder Bed Fusion (PBF), Directed Energy Deposition (DED), and Material
Small Airplane	A-0202	Structures	Fatigue Management Programs	If the applicant is proposing to incorporate a Fatigue Management Program (FMP) into an existing product, then the FAA may need to be consulted to determine the certification basis and the accepted means of compliance (MOC). FMPs cannot be mandated on existing products in the U.S. except through an Airworthiness Directive. FAA Advisory Circular AC 91-82 is considered an accepted MOC. There are varying approaches to the application of fatigue requirements to derivative model airplanes when the original model did not have fatigue requirements at initial certification. The SASB may be involved with these projects. In addition, the FAA does not typically allow use of an inspection program in lieu of the safe life design limits already established. Reference AC 21.101-1B, Appendix Table A-2, Example 23, "Conversion from a safe-life design to a damage tolerance-based design".
Small Airplane	A-0203	Structures	Load Relief/Alleviation Systems	If the applicant proposes to use load relief or load alleviation systems for aircraft structure, then they may require a special condition at amendment 23-63 or earlier to address the effect of such systems on aircraft structure. In addition, current regulations do not take into account the effects of system failures on aircraft loads. At amendment 23-64 and after, applicants should coordinate with the SASB to incorporate the requirements of the special conditions into their certification planning as FAA accepted means of compliance (MOC) in lieu of a special condition.
Small Airplane	A-0204	Structures	Composite Floats	If an applicant is seeking installation approval for composite floats that have not been approved to TSO C-27a, then they may need to obtain an FAA accepted means of compliance to address fatigue and durability requirements unique to composites as detailed in AC 23-19A. Sections 201 through 207. The guidance in AC 23-19A closely approximates requirements per §23.573 for composite structure. The use of composites also requires compliance methods that may require additional work to satisfy §23.603, §23.609 and §23.613 that are typically more onerous than that required for a metallic float. At amendment 23-64 and after, the applicant should coordinate an FAA accepted means of compliance with the SASB to incorporate elements of TSO-C27a, NAS 807 r2, and/or AC-23-19A.
Small Airplane	A-0205	Structures	Life Limits - Damage Tolerance Inspections	If the applicant is proposing to eliminate or extend existing life limits, they must contact the SASB. Small airplanes may have structural life limits on certain components imposed by the airplane's certification basis. Type design holders or STC applicants may propose eliminating the existing life limits and replacing them with damage tolerance based inspection programs, especially as the fleet approaches the life limits. The FAA believes that it is impractical to develop an adequate inspection program, incorporate damage tolerant design features and materials, and provide sufficient residual strength in an airplane designed and tested for the life limit approach. There exists an unacceptable risk of fatigue cracking beyond the original life limit and an inspection program has limited capability of detecting what may be a relatively large number of cracks as the fleet ages past the original life limit. The FAA position is that an inspection program cannot eliminate a life limit but it can be used to extend an existing life limit. The FAA may approve an initial life extension of the original life limit upon an FAA accepted inspection program.
Small Airplane	A-0206	Structures	Material Design Values	If the applicant proposes to use material that does not meet 14 CFR 23.613 at amendment 23-63 or prior, then they may require an Equivalent Level of Safety (ELOS) finding. The use of S-Basis design values (material allowables) do not comply with probability requirements of 14 CFR 23.613(a), (b), and (e), amendment 23-45. This requires that material strength properties be based on a sufficient number of tests to establish a statistical basis for the design values. For single load path structure, 14 CFR 23.613 further requires the design values must be established with a 99 % probability and 95 % confidence ("A" basis) value. For multiple load path structure, the design values must be established with a 90 % probability and a 95 % confidence ("B" basis) value. However, S-Basis design values have an unknown statistical assurance. Currently, there is no alternate allowed for structure to use statistically determined minimum design values other than "A" or "B" basis. In addition, there is no option to utilize a procurement specification value as a design value verified with receiving inspection test sampling processes. At amendment 23-64 and after, applicants should incorporate FAA accepted means of compliance (MOC) into their certification planning in lieu of an ELOS finding.
Small Airplane	A-0207	Structures	Life Limits - Safe Life Airplanes and Significant Change	Significant Change under 14 CFR 21.101 requires the applicant comply with all applicable rules for the product being changed that are effective on their date of application for the proposed change UNLESS it is determined that compliance to the later requirement is (1) Not in an area affected by the change, (2) Does not significantly contribute the Level of Safety or (3) is impractical. Damage Tolerance is part of the latest certification basis for structural changes. However, airplanes that have been originally certificated to Safe Life or Fail Safe requirements need to be reviewed to determine if they can be certificated to Damage Tolerance requirements at the latest rule.
Small Airplane	A-0301	Avionics	Non-TSO Electronic Flight Instrument Systems and Avionics	If the applicant is seeking to install non-TSO avionics, then they may need to verify the level of FAA involvement in their project. Many avionics manufacturers have developed lower cost integrated display systems specifically for the Experimental and Amateur-built airplane markets. Although these systems have many or all of the same functions, they generally do not follow the design assurance processes specified in the TSOs. The TSOs only specify a minimum performance, and they often outline the design assurance requirements as well as environmental standards in addition to general operating requirements. TSO authorization indicates that the article manufacturer has provided a statement of compliance with the TSO requirements and the article is produced under an FAA approved quality system. For non-TSO equipment, the installer bears responsibility for supplier control of the type design and the production of the article. The FAA has issued several project-by-project policies that support the integration of such EFIS into part 23 airplanes. The FAA will determine their involvement for any EFIS that has not been certificated before.
Small Airplane	A-0302	Avionics	Relief from 14 CFR 23.1311(a)(5)	If the applicant is seeking relief from 14 CFR part 23.1311(a)(5) at amendment 23-49 for installation approval of electronic displays in part 23 airplanes limited to VFR, then they may require an Equivalent Level of Safety (ELOS) finding. The Small Airplanes Standards Branch have developed policy designed to reduce the burden of processing multiple ELOS requests and communicates the intent of 23.1311(a)(5).
Small Airplane	A-0303	Avionics	Speech Recognition or Voice Activated Technology	If the applicant proposes to install speech recognition or voice activated technology for avionics data entry, then they may need to obtain an FAA accepted means of compliance (MOC) to 14 CFR 23.1301 and 23.1309 at amendment 23-63 and prior. At amendment 23-64 and after, applicants should incorporate FAA accepted means of compliance (MOC) into their certification planning.
Small Airplane	A-0305	Avionics	Vision Systems - Night Vision Imaging Systems	If the applicant is seeking to install night vision compatible lighting systems into part 23 airplanes, then they must obtain an FAA accepted means of compliance (MOC) at all amendment levels. The FAA accepted NVIS MOC is currently available as a Project Specific Policy Memo that may be obtained from the SASB. This MOC defines an acceptable MOC for aided flight operations and aided takeoff and landing operations. This MOC does not address operational authorization. The project specific policy memo does not currently allow for agricultural application operations and therefore an issue paper will be required. Similarly, aided seaplane operations are also not covered and will require an issue paper.
Small Airplane	A-0307	Avionics	Airspeed Indicator Markings	If the applicant is installing digital avionics (glass cockpit), then they may require an Equivalent Level Of Safety (ELOS) finding when complying with 14 CFR 23.1545 Airspeed Indicator at amendment 23-63 and prior. At amendment 23-64 and after, applicants should incorporate FAA accepted means of compliance (MOC) into their certification planning in lieu of an ELOS finding.
Small Airplane	A-0308	Avionics	Radio Altimeters	Notify Policy and Innovation Division (AIR-600) of applications for design approvals including radio altimeters. New 5G C-band spectrum use (expected as early as Dec 5, 2021 in the US and in varying stages of implementation around the world) poses a potential risk to the operation of this equipment. Because there is no clear and common understanding of what constitutes safe integration of current or newly proposed equipment in the new spectrum environment, AIR-600 needs to be aware and may be involved. AIR-622 will coordinate with AIR-720, AIR-720 and AIR-600 are developing an SAIB as an interim step to awareness and recommendations for this issue. RTCA is working on new standards for radio altimeters to be compatible with 5G C-band interference but that is not expected until at least late-2022. Until we have that standard, it may not be possible to set appropriate compliance
Small Airplane	A-0309	Avionics	Nonconformal Heads up Display	If the applicant is seeking to install a nonconformal heads up display, then they must obtain an accepted means of compliance (MOC). Nonconformal heads-up displays do not take into account external reference information. They act as a repeater to the electrical flight instrument system. They are not considered required equipment but have safety enhancing capability.
Small Airplane	A-0310	Avionics	Simple Autopilots	If the applicant is seeking to install simple autopilots, then they should contact the SASB for additional guidance.
Small Airplane	A-0311	Avionics	Envelope Protection and Emergency Descent Mode	If the applicant is proposing to install new control functions within the autopilot on a new or existing avionics system which provides automatic stability augmentation and envelope protection or the addition of an emergency descent mode, then they must obtain an FAA accepted means of compliance (MOC). At amendment 23-64 and after, applicants should incorporate FAA accepted means of compliance (MOC) into their certification planning.
Small Airplane	A-0312	Avionics	Adaptive Controllers/Autopilots	If the applicant proposes to use Adaptive Controllers/Autopilots, then they must coordinate their proposals with the SASB to determine the level of FAA involvement with respect to policy or guidance. Adaptive controllers/autopilots are non-deterministic systems and are new to the Part 23 fleet. The FAA is actively working on draft policy and guidance for the use of this new and novel technology.
Small Airplane	A-0313	Avionics	Autoland Systems	If the applicant is proposing the installation of systems that provide automatic landing capability in a piloted airplane, then they must coordinate with the SASB. Applicants may be required to apply special conditions to establish adequate requirements at 14 CFR part 23 amendment 23-63 or earlier based on the requirements found in 14 CFR 25.1329 (amendment 25-119), or may need to obtain FAA accepted means of compliance (MOC). AC 25.1329-1C may provide an accepted means of compliance for piloted airplanes. This issue will likely be in combination with, or installed after an autoland system. Autoland capability is also assumed an inherent function installed in UAS and pilotless aircraft, which already have involvement by the Standards Branch staff. Operator certification (pilot training and maintenance program) is generally required to utilize the autoland function once the type design is approved. At amendment 23-64 and after, applicants should incorporate the requirements of the special condition into their certification planning as FAA accepted means of compliance (MOC) in lieu of a special condition.
Small Airplane	A-0314	Avionics	Emergency Use Only Autoland Systems	If the applicant proposes to add emergency use only functionality that provides for automatic landing of the airplane, then the SASB will be involved in the project. Note: This functionality is not to be confused with "normal" autoland capability. This functionality provides for autonomous control and landing of the airplane to a system-determined suitable airport. The need for equivalent level of safety (ELOS) findings and corresponding means of compliance (MOC) must be determined on a case-by-case basis for each installation. The FAA has developed draft policy. The applicant should define the specific intended functions for § 23.1301 compliance, and provide a definition of appropriate failure conditions and classifications for § 23.1309 compliance. The FAA has developed an issue paper template (S-1) to address MOC for these two regulations, up to and including amendment 23-63. Certain aspects of the emergency use autoland may not be able to comply with existing pilot-centric 14 CFR part 23 regulations. The applicant should identify the affected regulations and the compensating features that provide for an equivalent level of safety intended by the regulations and request an ELOS finding by the FAA for those aspects. The FAA has developed an issue paper template (S-2) to address the potential regulatory requirements that may need an ELOS. At amendment 23-64 and after, applicants, applicants should incorporate FAA accepted means of compliance (MOC) into their certification planning in lieu of an ELOS finding.

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21	Small Airplane	A-0401	Cabin Safety	Emergency Exits - Unobstructed Path	If the applicant is seeking to comply with 14 CFR part 23.807(b) at amendment 23-63 and prior, then they may require an Equivalent Level of Safety (ELOS) Finding. The FAA has allowed exemptions or ELOS where a seatback could be pushed out of the path without any additional actions, while other foreign airworthiness certification authorities have permitted additional actions on seatbacks and climbing over seats with lowered seatbacks based on an evacuation test. Applicants complying with 14 CFR part 23.807(b) at amendment 23-63 and prior must maintain an unobstructed path to emergency exits. At amendment 23-64 and after, applicants should incorporate FAA accepted means of compliance (MOC) into their certification planning in lieu of an ELOS finding.
22	Small Airplane	A-0402	Cabin Safety	Seats - Maximum Allowable Seating Limitations	Seating configurations are established as part of the aircraft type design and are listed on the Type Certificate Data Sheet (TCDS). Maximum allowable seating configurations may be changed by amending the Type Certificate (TC) or by a Supplemental Type Certificate (STC). The established maximum seating configuration as listed on a TC (on the TCDS) or STC (as a limitation) does not refer to the maximum number of seats occupied, but instead, the maximum number of seats allowed to be installed in the airplane. The limitation is the maximum allowable, not necessarily the number of seats installed in a given airplane. The seating configuration used to dictate aircraft maintenance requirements are determined by the number of allowed seats listed in the TC (TCDS) or STC (limitations). The AFM also states the maximum seating configuration consistent with the TC or STC. An STC that reduces seat count must actually remove seats from the airplane down to the established maximum number of allowable seats and there should be a limitation on the face of the STC that clearly indicates number of allowable seats installed. If seating is integral to the product (i.e. toilet, divan, bench) it must be (1) placarded that the seat may not be occupied for take-off and landing or (2) it must be counted as part of the total seat count. Note: For Part 21.41 limitations are stated on the TCDS (or STC limitation). This is applicable to maximum allowable seating configuration (limitation). At amendment 23-9 and prior seating limitation should be part of TCDS (as indicated by part 21), this is not specifically addressed at amendment 23-9 and prior. At amendment 23-10 through 23-63 §23.1524 and §23.1583 address the maximum permissible seating configurations to be indicated in the TCDS and AFM. At amendment 23-64 seating configurations are addressed in §23.2005 (airplane "level") and §23.2620 (via accepted MOC ASTM3264-17, section 5.15.1, and ASTM 3174-15, section 4.9). These limitations should be listed on TCDS (or STC) and in AFM.
23	Small Airplane	A-0502	Electrical Systems	Battery - Rechargeable Lithium/Battery Systems Installation	If the applicant is seeking approval of rechargeable lithium batteries and/or battery system(s) installations, then a means of compliance issue paper (MeansOCIP) containing rechargeable lithium battery safety objectives (SO) requirements is needed to address rechargeable lithium battery aircraft installations. RTCA DO-311A is invoked by TSO-C179B and provides an acceptable method of compliance to the battery article. The Method of Compliance issue paper (MethodOCIP) documents the compliance method for each of the safety criteria for each specific part 23 airplane installation. Acceptable methods of compliance for button/Coin cells less than 2 watt-hours of energy that are not required for safe operation of the airplane, are: * UL1642 * UL2054 * IEC 62133 This SAIL item includes two template issue papers on rechargeable lithium batteries to address airplane installations: a) Means of compliance Issue Paper (MeansOCIP) b) Method of compliance Issue Paper (MethodOCIP) Note: Draft Advisory Circular 20-184A part 23 appendix published for public comment on 10/12/2018 and posted on ANMinfo will be revised to reflect this part 23 SAIL item 2680. The Aircraft Certification Service office responsible for the certification project forwards a copy of the IP and applicant position to the Policy and Innovation focal point. Applicants are required to step up to 14 CFR Amendment 23-64 to avoid issuance of special conditions for level 4 part 23 airplanes.
24	Small Airplane	A-0503	Electrical Systems	Battery - Non-Rechargeable Lithium/Battery Systems Installation	If the applicant is seeking approval of Non-rechargeable lithium batteries and/or battery system(s) installations, then a means of compliance issue paper (MeansOCIP) containing Non-rechargeable lithium battery safety objective (SO) requirements is needed to address Non-rechargeable lithium battery aircraft installations. RTCA DO-227A is invoked by TSO-C142B and provides an acceptable method of compliance to the battery article. The method of compliance issue paper (MethodOCIP) documents the compliance method for each of the safety objective for each specific part 23 airplane installation. Acceptable methods of compliance for button/Coin cells less than 2 watt-hours of energy that are not required for safe operation of the airplane, are: * UL1642 * UL2054 This SAIL item includes two template issue papers on Non-rechargeable lithium batteries to address airplane installations: a) Means of compliance Issue Paper (MeansOCIP) b) Method of compliance Issue Paper (MethodOCIP) The Aircraft Certification Service office responsible for the certification project forwards a copy of the IP and applicant position to the Policy and Innovation focal point. Applicants are required to step up to amendment 23-64 to avoid the need of issuing special conditions for part 23 level 4 airplanes.
25	Small Airplane	A-0504	Electrical Systems	Battery - Storage Battery	If the applicant proposes to use an aircraft electrical system design that has the storage battery being used as starter power and emergency power, then they may require an Equivalent Level of Safety (ELOS) finding at amendment 23-63 or earlier to comply with 14 CFR 23.1353(h). Per this design, the aircraft must use the same battery that is used for engine starting as well as to meet the 30 emergency minute requirement. At amendment 23-64 and after, applicants should incorporate FAA accepted means of compliance (MOC) into certification planning in lieu of an ELOS finding.
26	Small Airplane	A-0601	Fire Protection	Fire Protection of Flight Controls, Engine Mounts, and Other Flight Structure	If the applicant proposes to use materials not previously accepted as fire proof, such as composite materials, then they may need to obtain an FAA accepted means of compliance(MOC) to 14 CFR 23.865 at amendment 23-63 and prior. Testing is usually required to validate the performance of these materials.
27	Small Airplane	A-0602	Fire Protection	Composite or Nonmetallic Firewall	If the applicant proposes a firewall constructed with composite materials, then they must obtain and incorporate FAA accepted means of compliance (MOC) to 14 CFR 23.601, 23.603, 23.605, 23.859, 23.863, 23.903, 23.1013, 23.1091, 23.1121, 23.1123, 23.1141, 23.1182, 23.1183, 23.1189, 23.1191, 23.1192, and 23.1193 at amendment 23-63 and prior to ensure their proposed test and evaluation will be adequate.
28	Small Airplane	A-0603	Fire Protection	Fire Protection - Turbine Engine Oil Systems POC: Pretz, Jeff Without a Shutoff Valve	If the applicant is seeking to install a turbine-engine-oil system and all parts of the system are not shown to be fireproof when a shutoff valve is not incorporated into the system, then they may need to obtain an FAA accepted means of compliance (MOC) to 14 CFR 23.1013(e) and 23.1189(b) at amendment 23-62 and prior. Demonstration of compliance to the requirements of 14 CFR 23.1013(e) and 23.1189(b) has proven problematic in the past. At all amendment levels, applicants should incorporate FAA accepted means of compliance (MOC) into their certification planning.
29	Small Airplane	A-0604	Fire Protection	Fire Extinguishing/Suppression Agent	If the applicant proposes the use of non-Halon fire extinguishing/suppression agents for use in lavatory trash receptacle bottles, handheld fire extinguishers, engine/APU fire extinguishing, cargo compartment fire suppression, etc., then they may need to obtain an FAA accepted means of compliance (MOC) to 14 CFR 23.851, 23.855, 23.863, 23.1195, 23.1197, 23.1201, at amendment 23-63 and prior. Halon is being phased out of airplane applications per ICAO deadlines. At amendment 23-64 and after, applicants should incorporate FAA accepted means of compliance (MOC) into their certification planning.
30	Small Airplane	A-0701	Flight Controls	Highly Augmented Flight Path Control Systems/Fly By Wire (FBW)	If the applicant proposes to use Highly Augmented Flight Path Control Systems/Fly By Wire (FBW), then they may require special conditions, Equivalent Level of Safety (ELOS) findings, or may need to obtain FAA accepted means of compliance (MOC) at any part 23 amendment. FBW control systems are new to the Part 23 fleet and has only been certified to date under Parts 25 & 29 with the use of Special Conditions at Equivalent Levels of Safety. FBW systems are highly integrated flight controls and propulsion systems that may require new display symbology, and may require new performance and handling quality testing requirements. The FAA is actively working on draft policy and guidance for the use of this new and novel technology.
31	Small Airplane	A-0702	Flight Controls	Fully Autonomous Flight Control Systems	If the applicant is proposing to use Adaptive Controllers/Autopilots, then they must coordinate their proposals with the SASB to determine the level of involvement the FAA requires with respect to policy or guidance. Adaptive controllers/autopilots are non-deterministic systems and are new to the Part 23 fleet. The FAA is actively working on draft policy and guidance for the use of this new and novel technology.
32	Small Airplane	A-0801	Flight Test	Non - Functioning Cockpit Control	If the applicant is seeking to install a non-functioning cockpit control, then they may be required to apply an Equivalent Level of Safety (ELOS) to establish adequate requirements at amendment 23-63 or earlier. At amendment 23-64 and after, applicants should coordinate with the Policy and Innovation Division and incorporate the requirements of the ELOS into their certification planning for 14 CFR 23.2500, 23.2505, 23.2605 and 23.2610 as FAA accepted means of compliance (MOC) in lieu of an ELOS.
33	Small Airplane	A-0802	Flight Test	Active Stick Technology	If the applicant proposes to use Active Stick Technology, then they must coordinate their proposals with the SASB to determine the level of FAA involvement with respect to policy or guidance. Active stick technology is typically associated with Fly By Wire (FBW) control systems are new to the Part 23 fleet. Active stick systems are not covered at Amendment 23-63 and earlier and may require new means of compliance (MOCs) at Amendment 23-64 and later. They may require new inceptor feel characteristics, human qualities, and performance & handling quality testing requirements. The FAA is actively working on draft policy and guidance for the use of this new and novel technology.
34	Small Airplane	A-0803	Flight Test	Compliance to Stability Regulations	If the applicant is seeking to show compliance to stability regulations for unlimited acrobatic airplanes, then they may need a special condition for amendment 23-63 or earlier. At amendment 23-64 and after, applicants should incorporate the requirements of the special condition into their certification planning as an FAA accepted means of compliance (MOC) in lieu of a special condition.
35	Small Airplane	A-0901	Fuel System	Fuel- Approval of New Fuel	If the applicant is seeking approval to use a new fuel type, then they must coordinate their proposal with the SASB (and AIR 20 Alternative Fuels Program Office) to determine the level of FAA involvement with respect to policy or guidance. There is considerable activity across the aviation industry; therefore, energy behind the introduction of new aviation fuels is high. These efforts are highly visible and potentially controversial. NOTE: This is intended for fuels new to aviation where there is no existing FAA accepted standard for that fuel, not the approval of an existing aviation fuel for use on a specific model.
36	Small Airplane	A-0902	Fuel System	Fuel System - Pressure Defueling	If the applicant is seeking to install a pressure defueling system in accordance with 14 CFR 25.979(e), then they may require special conditions at amendment 23-63 and earlier to establish adequate requirements. At amendment 23-64 and after, applicants should coordinate 23.2400(c) and 23.2430(c) with the SASB to incorporate the requirements of the special condition into their certification planning as FAA accepted means of compliance (MOC) in lieu of a special condition.
37	Small Airplane	A-0903	Fuel System	Fuel System - Temperature	If the applicant is seeking to establish the minimum level of safety expected for the effect of elevated fuel system temperatures on the airplane, then they may require special conditions at amendment 23-63 and earlier. Fuel systems configured to reject engine heat through the airplane fuel tanks by use of an engine oil/fuel heat exchanger or other means may result in fuel tank temperatures above the critical temperature test requirements of 14 CFR 23.961 and 23.965(d). At amendment 23-64 and after, applicants should coordinate 23.2430(a)(3) and (b)(1) with the SASB to incorporate the requirements of the special condition into their certification planning as FAA accepted means of compliance (MOC) in lieu of a special condition.
38	Small Airplane	A-1001	Human Factors	Electronic Flight Instrument Systems	If the applicant is proposing to install an electronic flight instrument system (EFIS) that has not been previously evaluated by the SASB, then the FAA may require a multi-pilot usability and human factors evaluation. This evaluation (on past EFIS) have resulted in the need for Equivalent Level of Safety (ELOS) finding(s) or additional FAA accepted means of compliance (MOC) to 14 CFR 23.1309(d), 23.1311, 23.1321 and 23.1322 at amendment 23-63 and prior. At amendment 23-64 and after, applicants should incorporate FAA accepted means of compliance (MOC) into their certification planning in lieu of an ELOS finding.
39	Small Airplane	A-1002	Human Factors	Touch Screens	If the applicant is seeking to install touch screens (multi-function controls), then they should follow the FAA accepted means of compliance (MOC) contained in the applicable chapters of FAA Advisory Circular AC 20-175, "Controls for Flight Deck Systems." If the touchscreen has not previously evaluated by the FAA, then the FAA will evaluate their level of involvement in the project.
40	Small Airplane	A-1101	Icing	Flight Into Known Icing (FIKI)	Applicants must coordinate with the SASB if they are: Seeking FIKI approvals, or Proposing changes that affect or could affect existing FIKI approvals, or Proposing to modify an aircraft that has icing related airworthiness directives (AD), or Proposing to make autopilot modifications on an airplane certificated for icing prior to Amendment 23-43 to ensure the airplane has adequate low airspeed awareness. Regulatory Reference: 14 CFR 23.929, 23.1416, 23.1419 at amendment 23-63 and prior. 14 CFR 23.2010, 23.2165, 23.2415, 23.2540 at amendment 23-64 and after. Related Documents Flight Into Known Icing (FIKI)
41	Small Airplane	A-1103	Icing	Engine Operation in Ice Crystal Conditions	If the applicant is using Electronic Engine Control (EEC) logic on an icing certified airplane to determine if the airplane is operating in ice crystal conditions, then the SASB will be involved in the project. For example, blockage of the TiD probe by ice crystals has resulted in engine thrust rollbacks in ice crystal environments.
42	Small Airplane	A-1401	Propulsion	Dual Electronic Ignition Systems	If the applicant is seeking to replace both traditional magnetos with a dual electronic ignition system, then they may be required to address the relevant topics in Policy Memo PS-ACE100-2004-10024 in a means of compliance issue paper for §23.1165 for all installations and §23.903(c) for multi-engine installations at amendment 23-63 or earlier. At amendment 23-64 and after, applicants should address the relevant topics in Policy Memo PS- ACE100-2004-10024 in a means of compliance issue paper for §23.2410 until the appropriate ASTM standards can be revised.
43	Small Airplane	A-1402	Propulsion	Electric or Hybrid Electric Propulsion Systems	If the applicant is proposing to install electric or hybrid-electric propulsion systems, then they may require equivalent level of safety (ELOS) findings, special conditions (SC), or additional design criteria to address features not envisioned. The need for SC, ELOS, design criteria and corresponding means of compliance (MOC) must be determined on a case-by-case basis for each installation. Specific policy does not exist at this time. Projects with electric propulsion or hybrid electric will require SASB involvement.
44	Small Airplane	A-1404	Propulsion	Autothrust System	If the applicant is seeking to install an autothrust (autothrottle) system, then they may be required to apply special conditions to establish adequate requirements at amendment 23-63 or earlier based on the requirements of 14 CFR 25.1329. At amendment 23-64 and after, applicants should coordinate with the SASB and incorporate the requirements of the special conditions into their certification planning for 14 CFR 23.2500, 23.2505, 23.2510, 23.2605 as FAA accepted means of compliance (MOC) in lieu of a special condition.

	Product Type	Issue ID#	Category	Subject	Description
45	Small Airplane	A-1405	Propulsion	Engine Control System	If the applicant is seeking to install a full authority or supervisory engine control system (EEC/FADEC), then they may be required to apply special conditions to establish adequate requirements at amendment 23-63 or earlier. At amendment 23-64 and after, applicants should incorporate the requirements of the special condition into their certification planning as FAA accepted means of compliance (MOC) in lieu of a special condition.
46	Small Airplane	A-1406	Propulsion	Turbine Engines Shutdown	If the applicants turbine engine control system only includes a single means to shutdown the engine, then the applicant may require an FAA accepted means of compliance (MOC) to 14 CFR 23.1141(e) at amendment 23-63 and prior. The installation requirements of § 23.1141(e) require that no single failure of a turbine-engine control system causes failure of any powerplant function necessary for safety. Most engine control systems provide a redundant means for engine shutdown. For example, if the installed engine control system only provides a single means for shutting off fuel to the engine, then redundant means for engine shutdown must be provided to ensure a simple, quick, and safe shutdown if the primary means of shutdown fails. At amendment 23-64 and after, applicants should coordinate 23.2410(a) with the SASB to incorporate an FAA accepted MOC into their certification planning.
47	Small Airplane	A-1407	Propulsion	Powerplant Indications - Use of Digital Only Indications	If the applicant is seeking to install digital only display(s) in lieu of analog displays for powerplant instruments when complying with 14 CFR 23.1305 (where the term "indicator" is included in the regulation) and § 23.1549, since digital only indicators do not provide for arc, line, or radial markings, then they may require an Equivalent Level of Safety (ELOS) finding for §23.1301, 23.1305, 23.1311, 23.1321 and 23.1549 at amendment 23-63 or earlier. At amendment 23-64 and after, applicants should coordinate 23.2500, 23.2505, 23.2606, 23.2615, 23.2610 with the SASB to incorporate FAA accepted means of compliance (MOC) into their certification planning in lieu of an ELOS finding.
48	Small Airplane	A-1408	Propulsion	Engine Cooling - Climb Speeds	If the applicant is proposing compliance with 14 CFR 23.1047, amendment 23-51, "Cooling test procedures for reciprocating engine powered airplanes", using an airspeed greater than the best rate of climb speed (V <sub>y</sub> ) or balked landing climb (V <sub>REF</sub> ) speeds, then they may need to obtain an FAA accepted means of compliance (MOC). Section 23.63(a)(2), amendment 23-62, requires §§ 23.65 Climb: All engines operating; and 23.77, Balked landing, to use speeds not less than the speed used to demonstrate compliance with the powerplant cooling requirements (§§ 23.1041, amendment 23-51, through 23.1047). Applicants proposing to use an airspeed greater than those used to show compliance to §§ 23.65 or 23.77 to demonstrate compliance with § 23.1047 should propose a method of compliance that will ensure adequate engine cooling during all expected operating conditions. Applicants should coordinate with the SASB to determine an appropriate MOC and incorporate the FAA accepted MOC into their certification planning.
49	Small Airplane	A-1409	Propulsion	Engine Cooling - Coolant Tank Capacity Requirements	If the applicant is seeking to install liquid cooled reciprocating engines, then an Equivalent Level of Safety (ELOS) finding to 14 CFR 23.1061(b) may be required at any amendment up to and including amendment 23-63. Some 14 CFR part 33 approved reciprocating engines include a self-contained cooling system that may not meet the installation coolant tank capacity and expansion space requirements of 14 CFR 23.1061(b). At amendment 23-64 and after, applicants should incorporate FAA accepted means of compliance (MOC) into their certification planning in lieu of an ELOS finding.
50	Small Airplane	A-1410	Propulsion	Energy/Thrust Management Systems/Displays for Electronic Propulsion	If the applicant proposes to use Energy and/or Thrust Management Systems, then they must coordinate their proposals with the SASB to determine the level of FAA involvement with respect to policy or guidance. Aircraft designed to incorporate electric propulsion systems, distributed propulsion systems, or operate in different flight modes (vertical, transitory, forward flight) may be required to utilize energy and/or thrust management systems which are new to the Part 23 fleet. Considerations include the monitoring of battery states, individual thrust vectors (magnitude and direction) as well as malfunction annunciations. The FAA is actively working on draft policy and guidance for the use of this new and novel technology.
51	Small Airplane	A-1411	Propulsion	Distributed Propulsion Systems	If the applicant proposes to use distributed propulsion systems, then they must coordinate their proposals with the SASB to determine the level of FAA involvement with respect to policy or guidance. Highly-augmented, distributed propulsion systems are new to the Part 23 fleet. They are typically defined as a highly-augmented propulsion system consisting of a single throttle controlling a multi- motor system. The FAA is actively working on draft policy and guidance for the use of this new and novel technology.
52	Small Airplane	A-1412	Propulsion	Propulsion as a Flight Control Effector	If the applicant is proposing to use propulsion as a flight control effector, then they must coordinate their proposals with the SASB to determine the level of FAA involvement with respect to policy and guidance. The use of propulsion as a flight control effector is new to the Part 23 fleet. Examples of this unique type of control may be found in a distributed propulsion system or with an aircraft designed to operate in multiple flight modes. The FAA is actively working on draft policy and guidance for the use of this new and novel technology.
53	Small Airplane	A-1502	Security	Security Considerations (Cybersecurity)	If the applicant proposes to use wireless connectivity for data transfers to onboard avionics, then they may need to obtain an FAA accepted means of compliance (MOC). At amendment 23-64 and after, applicants should incorporate FAA accepted means of compliance (MOC) into their certification planning. Policy Statement PS-AIR-21.16-02 Rev 2 is an FAA accepted MOC.
54	Small Airplane	A-1601	Software/Airborne Electronic Hardware	Artificial Intelligence Software	If the applicant is proposing to use artificial intelligence (AI) software, then this will require FAA involvement. References: FAA Advisory Circular (AC) 20-115D, DO-178C. Applicants should contact the SASB for additional guidance.
55	Small Airplane	A-1602	Software/Airborne Electronic Hardware	Multi-Core Processors	If the applicant proposes to use software-based aircraft systems that utilize multi-core microprocessors (i.e., without disabling unused cores, etc.), then they must use or obtain an FAA accepted means of compliance (MOC).
56	Small Airplane	A-1603	Software/Airborne Electronic Hardware	Unmanned Aircraft Systems - Software and Hardware Design Assurance	If the applicant is seeking to establish the software and airborne electronic hardware (AEH) design assurance airworthiness criteria in accordance with 14 CFR 21.17(b), then they must use or obtain an FAA accepted means of compliance (MOC). The requirements currently established for Software and AEH design assurance may not be appropriate depending on the Unmanned Aircraft System (UAS) design and concept of operations
57	Small Airplane	A-1701	Systems and Equipment	Application of 23.1309/23.2510 to Oxygen Systems on Unpressurized Airplanes With a Single Pilot	If the applicant is installing a conventional oxygen system in unpressurized airplanes, then the FAA may be involved to ensure a consistent and standardized approach to the applicability of 14 CFR 23.1309 at amendment 23-41 through 23-62/14 CFR 23.2510 at amendment 23-64 and after for conventional airplanes that operate up to 25,000 feet with a single pilot. Prior to amendment 23-41 oxygen systems were not evaluated as part of the system safety process for 23.1309. On some recent projects that installed conventional oxygen systems in unpressurized airplanes 23.1309/23.2510 were applied inconsistently because different assumptions were made about the severity of oxygen failure conditions and different approaches were used for the applicability of 23.1309/23.2510. Oxygen system failure during unpressurized flight at 25,000 feet could be potentially catastrophic, but could also be less severe, depending on the pilot's ability to recognize the failure and respond before becoming excessively impaired by hypoxia. 23.1309/23.2510 are not applied when specific requirements adequately address failure or abnormal operation, and determining the applicability is not always clear. An issue paper has been developed to improve standardization for classifying oxygen failure conditions and for standardizing the applicability of 23.1309/23.2510 for conventional oxygen equipment on unpressurized airplanes that operate up to 25,000 ft with a single pilot. Regulatory Reference: 14 CFR 23.1309 at amendment 23-41 through 23-62
58	Small Airplane	A-1703	Systems and Equipment	Data Link System Supporting Air Traffic Services (ATS) Communications (NEXTGEN)	If the applicant is seeking to install aircraft data communication systems used for air traffic services (ATS), then they must incorporate FAA accepted means of compliance (MOC). Advisory Circular AC 20-140C, "Guidelines for Design Approval of Aircraft Data Link Communication Systems Supporting Air Traffic Services (ATS)", covers different types of data link systems and interoperability criteria, respectively, is an FAA accepted MOC. Additionally, policy memorandum, AIR-680-17-680-DM281, AC 20-140C General Memo, dated December 08, 2017, provides clarification on FANS 1/A+, associated viable sub-networks, and use of operating limitations in the Airplane Flight Manual. Examples of ATS data communication systems are controller pilot data link communications, Automatic Dependent Surveillance-Contract, and Aircraft Communications Addressing and Reporting System. AC 20-140C covers different types of data link systems and interoperability criteria respectively. Applicants should incorporate FAA accepted means of compliance (MOC) into their certification planning and coordinate with the SASB of their intent to propose an alternative FAA accepted MOC in accordance with AC 23.2010-1, FAA Accepted Means of Compliance Process for 14 CFR Part 23, that can be incorporated into their certification planning.
59	Small Airplane	A-1707	Systems and Equipment	Remotely Piloted Systems/ Command & Control (C2) Systems	If the applicant proposes to use Remotely Piloted Systems, then they must coordinate their proposals with the SASB to determine the level of FAA involvement with respect to policy and guidance. Remotely piloted aircraft are found in the Unmanned Aircraft Systems (UAS) community and are new to the Part 23 fleet. There is UAS guidance for remotely piloted vehicles that includes definitions, specifications and testing requirements for command and control systems but this may have to be modified to adapt it to Part 23 aircraft. Additional considerations include where and how this aircraft is to be operated and whether or not it is carrying passengers. The FAA is actively working on draft policy and guidance for the use of this new and novel technology.
60	Small Airplane	A-1708	Systems and Equipment	Airbags	If the applicant is seeking to install airbags on the airframe, then they may need to obtain an FAA accepted means of compliance (MOC) or may be required to apply a special condition. Applicants should contact the SASB for any updated information or guidance.
61	Small Airplane	A-1709	Systems and Equipment	Run Time Assurance/Health Monitoring Executive Systems	If the applicant proposes to use Run-Time Assurance/Health Monitoring Executive Systems, then they must coordinate their proposals with the SASB to determine the level of FAA involvement with respect to policy and guidance. Run-Time Assurance/Health Monitoring Executive Systems are high-level monitoring and protection systems and are new to the Part 23 fleet. The FAA is actively working on draft policy and guidance for the use of this new and novel technology.
62	Small Airplane	A-1710	Systems and Equipment	Real Time Parameter Identification Systems	If the applicant proposes to use Real-Time Parameter Identification Systems, then they must coordinate their proposals with the SASB to determine the level of FAA involvement with respect to policy and guidance. Real-Time Parameter Identification Systems are non-deterministic systems used to mathematically model something in real-time and are new to the Part 23 fleet. The FAA is actively working on draft policy and guidance for the use of this new and novel technology.
63	Airships Gliders (Sailplanes) Very Light Airplanes	A-1801	Other	Special Class Products	Airships, Gliders (Sailplanes), and Very Light Airplanes are certificated by the FAA under 14 CFR 21.17(b) as "special class" products. These special class products use airworthiness design criteria as their certification basis rather than the airworthiness standards under Title 14, Code of Federal Regulations (14 CFR), part 23 etc. The FAA has published accepted means of compliance (MOC) that establish the airworthiness criteria for Gliders (Sailplanes), Very Light Airplanes, and Airships. The FAA published Advisory Circulars (AC) are: AC 21.17-2A, Type Certification-Fixed Wing Gliders (Sailplanes) establishes European Aviation Safety Agency (EASA) CS-22 and Joint Airworthiness Requirements (JAR-22) sailplane regulations as acceptable airworthiness criteria. AC 21.17-3, Type Certification of Very Light Airplanes under FAR 21.17(b), establishes EASA CS-Very Light Airplanes (CS-VLA) and JAR-VLA regulations as acceptable airworthiness criteria. AC 21.17-1A, Type Certification—Airships, and FAA-P-8110-2, Airship Design Criteria and additional policy memos. The FAA must provide a public notice and respond to public comments when changes to airworthiness criteria are proposed or when newly established airworthiness criteria are proposed to be applied to a new product. Any new products proposed to be certificated under 14 CFR 21.17 (b) special class and any changes to existing special class products that modify the established airworthiness criteria or deviate from the FAA accepted MOC will require Policy and Innovation involvement.
64	Balloon	A-1802	Other	Balloon - Lifting Envelope Changes	If an applicant is proposing to replace the lifting envelope of a type certificated balloon with another lifting envelope (i.e. via Supplemental Type Certificate), they must retain and reinstall the original data plate and install an additional supplemental data plate as close as physically possible to the original data plate. This information is provided to communicate the requirements of FAA data plate removal and installation of a supplemental data plate for balloon envelope changes as the data plate is typically attached to the lifting envelope. Deviations from this guidance will necessitate SASSB review of the applicant's proposed changes. This communication is provided due to confusion primarily seen among STC applicants about the appropriate handling of the data plate installed by the original equipment manufacturer and the need for a supplemental data plate. FAA Order 8130.2J, Section 2-3, paragraph e(2)(c) states: "When an aircraft has been modified to conform to another make/model, verify the supplemental ID plate contains the information specified in 14 CFR part 45.13..." FAA Advisory Circular, AC 45-2E paragraph 6.7 Notes: "When an aircraft has been modified to conform to another model of the same make, a new ID plate is required to be attached as close as physically possible to the original ID plate. The original ID plate is not to be removed or altered in any manner."
65	Balloon Space	A-1806	Other	Aircraft in Low Earth Orbit (LEO)	If the applicant is seeking to operate an aircraft that will reach low-Earth orbit (LEO) or build a vehicle to operate in LEO, then they are under the jurisdiction of Title 51 U.S.C. Chapter 509, and, depending on their proposed operations may also be subject to Title 49 U.S.C and its accompanying regulations as well. On September 26, 2013, FAA legal counsel issued an interpretation under FAA's aviation and space statutes to determine which law applies to a potential balloon applicant for a commercial space tourism vehicle (51 U.S.C. or 49 U.S.C.). The balloon applicant in question was determined to be entirely under the jurisdiction of 51 U.S.C. Chapter 509 "parity" because the vehicle would make a rapid transit of and from controlled airspace and will not linger. However, the interpretation only applied to the altitudes being proposed by the specific applicant. When not operating as a launch vehicle, the appliance would be required to operate under the appropriate aviation provision of Title 49 U.S.C. and its accompanying regulations. NOTE: The legal interpretation rendered no opinion on what constitutes outer space but used 30 kilometers because at 30 kilometers (98,425 feet), water and blood boil, and an unprotected person would rapidly experience fatal decompression. Regardless of whether 30 kilometers constitutes outer space and the FAA renders no opinion on that question-a person would experience the same physiological responses at 30 kilometers as if exposed to the environment of low-Earth orbit (LEO).

	Product Type	Issue ID#	Category	Subject	Description
66	Small Airplane	A-1807	Other	Amendment 23-62 Errors	If an applicant is using part 23, amendment 23-62, for new products or product changes including STCs, then the SASB must determine whether an equivalent level of safety (ELOS) finding is necessary due to 14 CFR part 23, amendment 23-62 containing various errors. The FAA develops/issues ELOS findings per 14 CFR 21.21(b). However, the FAA will likely delegate the compliance finding to the Foreign Civil Aviation Authority for the part 23, amendment 23-62, errors ELOS finding memorandum. A copy of these errors and their corrections is available upon request. Applicants using part 23 amendment 23-62 as the Means of Compliance (MOC) to amendment 23-64 must also address these errors. ACOs and applicants should review the Project Specific Policy Memo for the most accurate list of regulations with errors. As of 3/13/18, the known errors exist in the following regulations: 23.45, amendment 23-62 General (Performance) 23.51, amendment 23-62 Takeoff speeds 23.63, amendment 23-62 Climb-General 23.67, amendment 23-62 Climb-One engine inoperative 23.73, amendment 23-62 Reference landing approach speed 23.77, amendment 23-62 Balked landing 23.161, amendment 23-50 Trim 23.181, amendment 23-62 Dynamic Stability 23.221, amendment 23-50 Spinning 23.251, amendment 23-62 Vibration and buffeting 23.253, amendment 23-62 High speed characteristics 23.571, amendment 23-62 Metallic pressurized cabin structures 23.785, amendment 23-49 Seats, berths, litters, safety belts, and shoulder harnesses 23.831, amendment 23-62 Ventilation 23.1195, amendment 23-62 Fire extinguishing systems 23.1197, amendment 23-62 Fire extinguishing agents 23.1199, amendment 23-62 Fire extinguishing characteristics 23.1201, amendment 23-62 Fire extinguishing materials 23.1445, amendment 23-62 Oxygen distribution system 23.1527, amendment 23-45 Maximum Operating Altitude 23.1545, amendment 23-62 Airspeed indicator 23.1583, amendment 23-62 Operating limitations
67	Small Airplane	A-1808	Other	Required Navigation Performance Authorization Required (RNP AR) Coordination	FAA headquarters retains oversight of all applications for operations approval to conduct Required Navigation Performance Authorization Required (RNP AR) operations. To avoid delays in processing these operations applications and confirming aircraft qualification, Aircraft Certification field offices should coordinate all RNP AR aircraft qualification airworthiness applications with the Navigation and Flight Technologies section (AIR-6B1) at FAA headquarters. Coordinating the application with AIR-6B1 will ensure the aircraft qualification requirements are met and documented in a manner facilitating an applicant's expeditious RNP AR operations approval.
68	Balloon	A-1810	Other	Aircraft in Low Earth Orbit (LEO)	If the applicant is seeking to operate an aircraft that will reach low-Earth orbit (LEO) or build a vehicle to operate in LEO, then they are under the jurisdiction of Title 51 U.S.C. Chapter 509, and, depending on their proposed operations may also be subject to Title 49 U.S.C. and its accompanying regulations as well. On September 26, 2013, FAA legal counsel issued an interpretation under FAA's aviation and space statutes to determine which law applies to a potential balloon applicant for a commercial space tourism vehicle (51 U.S.C. or 49 U.S.C.). The balloon applicant in question was determined to be entirely under the jurisdiction of 51 U.S.C. Chapter 509 partly because the vehicle would make a rapid transit of and exit from controlled airspace and will not loiter. However... the interpretation only applied to the altitudes being proposed by the specific applicant. When not operating as a launch vehicle, the appliance would be required to operate under the appropriate aviation provision of Title 49 U.S.C. and its accompanying regulations. NOTE: The legal interpretation rendered no opinion on what constitutes outer space but used 30 kilometers because at 30 kilometers (98,425 feet), water and blood boil, and an unprotected person would rapidly experience fatal decompression. Regardless of whether 30 kilometers constitutes outer space and the FAA renders no opinion on that question—a person would experience the same physiological responses at 30 kilometers as if exposed to the environment of low-Earth orbit (LEO).
69	Small Airplane	A-1811	Other	Aircraft With Different Flight Modes (Vertical, POC, Schaller, Ross Transition, Forward Flight) [eVTOL]	If the applicant proposes to design an aircraft to operate in different flight modes (vertical, transitory, and forward flight), then they must coordinate their proposals with the SASB to determine the level of FAA involvement with respect to policy or guidance. Aircraft like the new class of Vertical Takeoff and Landing (VTOL) vehicles are capable of flying in different modes of flight (vertical, transitory, and forward) and are new to the Part 23 fleet. There are many considerations not currently addressed in our requirements including new pilot vehicle interfaces, new displays for energy and thrust management, handling qualities, and unique malfunction scenarios. The FAA is actively working on draft policy and guidance for the use of this new and novel technology. The FAA is currently deciding if these vehicles will be 14 CFR 21.17(b) (special class) or 14 CFR 23 with special conditions.
70	Small Airplane	A-1812	Other	Basic Med Operations	If the applicant is seeking to allow 14 CFR part 68 basic med operations in some 14 CFR part 23 airplanes, then they may need to apply for type certificate action either through an amended type certificate or supplemental type certificate (STC) if their airplane is certificated above 6000 pounds maximum take-off weight and/or have seat counts greater than 6. The FAA has issued a policy memo that addresses these expectations more clearly and that memo is available upon request.
71	Small Airplane	A-1813	Other	Novel, Unique, or Unusual Design Features	If a technology or product change is novel, unique, or has unusual design features, then applicants and ACO staff should contact the applicable standards branch. Special Conditions are issued if the existing applicable airworthiness standards do not contain adequate or appropriate safety standards for the airplane, airplane engine, or propeller because of novel, unique or unusual design features of the product to be type certificated (refer to 14 CFR 11.19, 21.16, and 21.101(d)). Equivalent Level of Safety (ELOS) findings may also be applicable when literal compliance with an airworthiness standard cannot be shown and compensating factors exist that can be shown to provide an ELOS to the regulation in which an ELOS is sought. (refer to § 21.21(b)(1)). Novel, unique, or unusual design features may include but are not limited to the following issues(s): 1) Materials; 2) Processes; 3) Design feature(s) that would produce an unsafe condition; 4) Significant technology issues that are of controversial design; 5) Unique operational consideration(s); and 6) Other. When proposing changes to small airplane products certificated prior to amendment 23-64, applicants are encouraged to comply with later provisions of amendment 23-64 when doing so eliminates the need for special conditions or ELOS findings. Complying with amendment 23-64 performance-based requirements, special conditions and ELOS findings formerly required in its prescriptive predecessors—amendment 23-63 or earlier—could be potentially converted to means of compliance (MOC). The provisions and details of those former special conditions and ELOS could be incorporated into the applicant's certification planning as an FAA accepted MOC under the provisions of § 23.2010; FAA Accepted Means of Compliance Process for 14 CFR Part 23, thereby, potentially saving a significant amount of time and administrative effort for both the applicant and the FAA.
72	Small Airplane	A-1815	Other	Restricted Category Airplanes - Airplanes Already Certificated Commuter	Per 14 CFR 23.3(e), An airplane cannot have both Commuter Category Certification and one or more of Normal, Utility, Acrobatic certification.
73	Small Airplane	A-1816	Other	Significant Change - No Policy and Innovation Division Involvement	If the applicant is seeking to comply with an amendment earlier than that established on their date of application, then they must provide an argument per AC21.101-1A and this may be documented in their certification plan. The applicant's certification plan must be reviewed along with a determination on whether the applicant is complying with the latest regulations for the areas of change and if not, then they must provide an argument as to whether the level of safety is not materially improved or that compliance to the latest amendment is impractical. If a change is considered significant but with NO Policy and Innovation involvement, then the ACO should follow AC21.101-1A to ensure the process is followed. Please also see Part 23 Amendment 23-62 Errors corrections to see how to incorporate the challenges associated with the errors discovered in amendment 62 in dealing with amended TCs and new and amended STCs.
74	D&R UAS	D&R-1		D&R Unmanned Aircraft Airworthiness Criteria	Special class airworthiness criteria may need to be established. Certification Position Paper (CPP) No. CPP-D&R-1.1 provides acceptable proposed airworthiness criteria for certain unmanned aircraft that qualify to be certificated using the durability and reliability testing approach (D&R UAs). CPP No. CPP-D&R-1.1 is not applicable to all D&R UAs such as those with reciprocating engines. When applicable, applicants may use the CPP by referring to it in their project specific certification plan. A G-1 issue paper is needed if CPP No. CPP-D&R-1.1 is not applicable or if an applicant proposes alternate proposed airworthiness criteria.
75	D&R UAS	D&R-2		Means of Compliance with D&R Unmanned Airworthiness Criteria	Certification Position Paper (CPP) No. CPP-D&R-2.1 provides acceptable means of compliance (MOC) with the proposed airworthiness criteria in CPP-D&R-1.1 for certain D&R UAs. This MOC is not complete for UAs that conduct certain operations (e.g., operations into adverse weather conditions). If CPP No. CPP-D&R-2.1 is not applicable or an applicant proposes an alternate MOC, a G-2 MOC issue paper is needed.
76	D&R UAS	D&R-3		Operation in Adverse Weather Conditions	An issue paper may be needed to establish a method of compliance with D&R.130(c)(2) for operation in rain, snow or ice.
77	D&R UAS	D&R-4		Detect and Avoid Other Aircraft and Obstacles	An issue paper may be needed to establish a method of compliance with D&R.130(b)(5) for demonstrating the capability to detect and avoid other aircraft and obstacles.
78	D&R UAS	D&R-5		Environmental Certification Basis	A G-3 issue paper must establish the environmental certification basis (i.e., noise standards, and fuel venting and exhaust emissions standards).
79	D&R UAS	D&R-6		Noise Control Act of 1972	An N-1 issue paper may be created to request certain information from the applicant so the FAA can satisfy its statutory responsibility of a Noise Control Act (NCA) determination in accordance with the environmental provisions cited in Title 49 U.S.C. Section 44715 (Noise Control Act). This determination is required before issuing any original TC for an aircraft of any category except for experimental.