### Electrical Sys/Avionics
- **Yes**
- **Maybe**
- **Lithium Batteries**

**Description:** Regulations (§27/29 1353) do not adequately address hazards associated with lithium batteries. If guidance in AC 20-184 for rechargeable lithium batteries is followed in total, an MOC IP will not be required. An MOC IP is required for non-rechargeable lithium batteries. Regulatory changes are in work.

**Policy Guidance:** AC 20-184, Guidance on Testing and Installation of Rechargeable Lithium Battery and Battery Systems on Aircraft. Policy guidance for non-rechargeable Lithium batteries policy to follow.

**Additional Info:** Shaw, Andy

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### Flight Controls
- **Yes**
- **Yes**
- **AIFC - Control Margin Awareness**

**Description:** The FAA has determined that 14 CFR Part 27/29 does not contain adequate airworthiness standards for certification of FBW FCS. Implicit in the intent of §2x.143(b), (c), and (d), is to ensure that the pilot is provided with sufficient awareness of proximity to control limits. As 14 CFR 2x.143 was written to address hydraulic/mechanical flight control systems through which pilot awareness of control margins was provided by cyclic and pedal position relative to cockpit control stops, the rule is inadequate for certification of a FBW FCS, where there is no mechanical link between the inceptor and the receptor. Therefore, a special condition may be required to ensure that awareness of proximity to control limits at the main rotor and tail rotor is provided to pilots of the helicopter.

**Policy Guidance:** AC 20-184, Guidance on Testing and Installation of Rechargeable Lithium Battery and Battery Systems on Aircraft. Policy guidance for non-rechargeable Lithium batteries policy to follow.

**Additional Info:** Vanhoudt, John

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### Flight Controls
- **Yes**
- **Yes**
- **AIFC - Flight Crew Alerting**

**Description:** The current 14 CFR 20 standards do not provide adequate standards for the advanced CAS system of a helicopter due to the complexity of the aircraft systems and the new modes of the FBW primary flight controls which included degraded mode indication. The proposed special condition will update definitions, prioritization, color requirements, and performance for flightcrew alerting to reflect changes in technology and functionality. This special condition adds additional alerting functions, and consolidates and standardizes definitions and regulations for flightcrew warning, caution, and advisory alerting systems.

**Additional Info:** Vanhoudt, John

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### Flight Controls
- **Yes**
- **Yes**
- **AIFC - Flight Envelope Protection**

**Description:** Flight Envelope Protection (FEP) systems are used to prevent the pilot or an autopilot from making control commands that would force the aircraft to exceed its structural, aerodynamic, or operating limits. To accomplish this envelope limiting, a significant change (or multiple changes) occurs in the FCS control laws as the limit is approached or exceeded. When FCS failure states occur, envelope protection features can likewise be either modified or, in some cases, eliminated. The current regulations were not written with comprehensive envelope-limiting systems in mind.

**Additional Info:** Vanhoudt, John

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### Flight Controls
- **Yes**
- **Yes**
- **AIFC - Control in All Attitudes**

**Description:** (FBW) technology as the sole means of controlled flight. Flight control systems must continue to function in conditions of unusual attitudes and in rapid maneuvers. The pilot should be able to rely on flight controls for recovery in all attitudes and at the highest pitch, roll and yaw rates that may be encountered.

**Additional Info:** Vanhoudt, John

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### Flight Controls
- **Yes**
- **Yes**
- **AIFC - Mode Annunciation**

**Description:** Fly-By-Wire (FBW) Flight Control System (FCS) incorporating a new and novel design feature, for which 14 CFR Part 20 does not provide an adequate safety standard, in the area of pilot awareness of the flight control modes while operating the helicopter. This special condition proposes that suitable mode annunciation be provided to the flight crew for events that significantly change the operating mode of the system but do not merit the traditional warnings, cautions, and advisories.

**Additional Info:** Vanhoudt, John

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### Flight Controls
- **Yes**
- **Yes**
- **AIFC - Command Signal Integrity**

**Description:** The current 14 CFR 20 regulation 20.671 was not promulgated for FBW FCS and is considered inadequate for susceptibility to external or internal interference, erroneous signals that may reduce the integrity of the data used by the AIFCS.

**Additional Info:** Vanhoudt, John
<table>
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<tr>
<td>Flight Controls</td>
<td>Yes</td>
<td>No</td>
<td>AdPC - PreFlight Checks</td>
<td>§29.671(c)</td>
<td>Vanhoudt, John</td>
<td></td>
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<tr>
<td>Flight Controls</td>
<td>Yes</td>
<td>Yes</td>
<td>AdPC - Certification</td>
<td>§27/1309</td>
<td>Vanhoudt, John</td>
<td></td>
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<tr>
<td>Electrical Sys/Avionics</td>
<td>Yes</td>
<td>Yes</td>
<td>Installation of Complex Avionics on Part 27 Rotorcraft</td>
<td>§27.1309</td>
<td>Shaw, Andy</td>
<td></td>
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<tr>
<td>Electrical Sys/Avionics</td>
<td>Yes</td>
<td>No</td>
<td>Solid State Circuit Breaker Systems</td>
<td>§27/29.1357</td>
<td>Shaw, Andy</td>
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<tr>
<td>Electrical Sys/Avionics</td>
<td>Maybe</td>
<td>No</td>
<td>Non-required Equipment Safety Enhancing Equipment (NORSEE)</td>
<td>NORSEE Policy PS-ASW-27.29-10</td>
<td>Shaw, Andy</td>
<td></td>
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<tr>
<td>Electrical Sys/Avionics</td>
<td>Maybe</td>
<td>No</td>
<td>Approved Model List (AML) STC</td>
<td>Rotorcraft AML policy ASW-100-09-001, AC 20-180</td>
<td>Shaw, Andy Brandli, Liz</td>
<td></td>
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<tr>
<td>Electrical Sys/Avionics</td>
<td>Maybe</td>
<td>No</td>
<td>Laser Systems</td>
<td>AC 20-183</td>
<td>Shaw, Andy</td>
<td></td>
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<td>Electrical Sys/Avionics</td>
<td>Yes</td>
<td>No</td>
<td>Filtered Infra-Red (IR) searchlights</td>
<td>§27/29.1306</td>
<td>Shaw, Andy</td>
<td></td>
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<td>Electrical Sys/Avionics</td>
<td>Maybe</td>
<td>No</td>
<td>ADS-B-In</td>
<td>AC 20-172A</td>
<td>Shaw, Andy</td>
<td></td>
</tr>
<tr>
<td>Electrical Sys/Avionics</td>
<td>Maybe</td>
<td>No</td>
<td>Health Usage Monitoring Systems (HUMS) for usage and maintenance credit</td>
<td>AC 27, MG-15 and AC 29, MG-15</td>
<td>Brandli, Liz Shaw, Andy Hatfield, David Hughlett, Michael Edupuganti, Rao</td>
<td></td>
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<tr>
<td>Electrical Sys/Avionics</td>
<td>Maybe</td>
<td>No</td>
<td>Minimum Operational Performance Standard (MOPS) for Strapdown Attitude Heading Reference (AHRS)</td>
<td>AC 20-181 RTCA/DO-334</td>
<td>Suth, Mitch</td>
<td></td>
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<tr>
<td></td>
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<td></td>
<td>AC 20-181 and RTCA/DO-334 do define a minimum operational performance standard for strapdown AHRS that do not use gimbaled sensors. However, these standards are not referenced in AC 27-1B or 29-2C. The increase in use of strapdown AHRS systems that do not use gimbaled sensors, which may include correction logarithms, transformed from fixed wing to rotorcraft designs. The transition have created some performance challenges on rotorcraft installations. Some of these designs have utilized solid-state accelerometers (one for each flight axis) which have a difficulty distinguishing between rotorcraft movement and the normal vibration spectrum of the platform to which it is mounted. In addition, some the logarithms utilized relied on parameters, which in rotorcraft low speed environment have allowed for unacceptable errors.</td>
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<tr>
<td></td>
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<td></td>
<td>Similar issues are likely in other VTOL aircraft such as tiltrotor aircraft. DO-334 also does define acceptable maneuvers as it relates to conventional rotorcraft; however, this may not cover all appropriate fight test parameters for other types of VLOAL, i.e., tiltrotor conversion modes. An issue paper may be required in these cases to define additional flight test maneuvers. Acceptable performance criteria for installed attitude performance is defined by DO-334 Table 2-1, for Category A5 for dynamic conditions for the maneuvers defined in Table 3-1. Other maneuvers may be required for tiltrotor aircraft outside of the maneuvers defined in Table 2-1.</td>
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<td>The use of DO-334 Appendix A - Validation of Equipment Performance using simulation are not acceptable for rotorcraft/tiltrotor installations.</td>
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**Electrical Sys/Avionics**

- **Flight-test/Human Factors**
  - Maybe No **Class II Electronic Flight Bags**
  - AC 120-76B
  - Shaw, Andy
  - NextGEN Technology: An issue paper may be needed for EFB projects with Class 3 hardware or Type C software applications.

- **Flight-test/Human Factors**
  - Maybe No **Non-TSO functions**
  - AC 20-173
  - Davenport, Clark

**Electrical Sys/Avionics**

- **Flight-test/Human Factors**
  - Maybe No **Class III Electronic Flight Bags**
  - AC 20-173
  - Davenport, Clark

**Electrical Sys/Avionics**

- **Flight-test/Human Factors**
  - Yes No **TCAS II**
  - AC 20-151B (fixed wing), PS-ASW-2729-12 in work
  - Jordan, Jon
  - Shaw, Andy

**Electrical Sys/Avionics**

- **Flight-test/Human Factors**
  - Yes No **Wireless Systems**
  - AC 20-168
  - Shaw, Andy
  - Current guidance does not provide a means of compliance that adequately addresses unique characteristics and features for permanent installation or carry-on systems designed for in cabin wireless RF communications on rotorcraft. A means of compliance issue paper may be required for installation of a wireless RF system on Rotorcraft.

**Electrical Sys/Avionics**

- **Flight-test/Human Factors**
  - Maybe No **Glass cockpit installations**
  - AC 20-168
  - Shaw, Andy
  - AC 20-151B (fixed wing), PS-ASW-2729-12 in work
  - Jordan, Jon
  - Shaw, Andy

**Electrical Sys/Avionics**

- **Flight-test/Human Factors**
  - Yes No **Class II Electronic Flight Bags**
  - AC 120-76B
  - Shaw, Andy

**Electrical Sys/Avionics**

- **Flight-test/Human Factors**
  - Yes No **Non-TSO functions**
  - AC 20-173
  - Davenport, Clark

**Electrical Sys/Avionics**

- **Flight-test/Human Factors**
  - Yes No **Class III Electronic Flight Bags**
  - AC 20-173
  - Davenport, Clark

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  - AC 20-168
  - Shaw, Andy

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  - AC 120-76B
  - Shaw, Andy

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  - AC 20-173
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<tr>
<td>Electrical Sys/Avionics Flight-test/Human Factors</td>
<td>Maybe</td>
<td>No</td>
<td>Synthetic Vision Displays for IFR</td>
<td>A systems review will be required for SVS in IFR Rotorcraft. A means of compliance issue paper may be required as well. Because SV is presented on the primary flight display as an integral part of the attitude indicator, the level of design assurance for the interaction between the flight guidance cues (flight path vector, display of terrain, attitude indications of pitch/roll) should be commensurate with the criticality of a primary flight display, particularly when it comes to misleading information.</td>
<td>MG-19, AC 20-167A</td>
<td>Davenport, Clark</td>
<td></td>
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<tr>
<td>Electrical Sys/Avionics Flight-test/Human Factors</td>
<td>Yes</td>
<td>No</td>
<td>G500H installation</td>
<td>For compliance to 14 CFR 27.1309, the Garmin G500H Avionics Display System does not meet the safety requirements (&lt;1x10^-7) for a Hazardous failure condition of misleading attitude information during night VMC operations.</td>
<td>§27.1309</td>
<td>Shaw, Andy</td>
<td></td>
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<tr>
<td>Electrical Sys/Avionics Flight-test/Human Factors</td>
<td>Yes</td>
<td>Yes</td>
<td>Search and Rescue including AFCS operations below Vmin</td>
<td>Special Condition will be required for SAR operations.</td>
<td></td>
<td>Soth, Mitch</td>
<td></td>
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<tr>
<td>Flight-Test/Human Factors</td>
<td>Maybe</td>
<td>No</td>
<td>RNP Operations</td>
<td>NEXTGEN Technology: An issue paper may be needed to establish an acceptable means of compliance for Vertical RNP. Specific wording will be required for the RFM and a Flight-test evaluation will be required.</td>
<td>AC 20-138C</td>
<td>Jordan, Jon</td>
<td>Davenport, Clark</td>
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<tr>
<td>Flight-Test/Human Factors</td>
<td>No</td>
<td>No</td>
<td>Space-Based Augmentation System (SBAS) - Global Positioning System - Wide Area Augmentation System (GPS-WAAS)</td>
<td>Ensure a flight test evaluation is performed for LPV steep angle approaches. Legacy 3 axis autopilots have trouble with steep angle approaches. High Angle Intercepts Turns at the FAF should be performed to ensure adequate performance particularly in legacy based AFCS systems and equipment</td>
<td>AC 20-138C, MG-1</td>
<td>Jordan, Jon</td>
<td>Davenport, Clark</td>
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<tr>
<td>Flight-Test/Human Factors</td>
<td>No</td>
<td>No</td>
<td>Referencing Equipment Handbooks in RFM Limitations</td>
<td>Ensure Pilot's guides, Handbooks, etc. are not referenced within the limitations section of the RFM.</td>
<td></td>
<td>Jordan, Jon</td>
<td></td>
</tr>
<tr>
<td>Flight-Test/Human Factors</td>
<td>No</td>
<td>No</td>
<td>Night Vision Imaging Systems (NVIS)/NVG</td>
<td>Ensure a human factors evaluation is performed. Reg 21.93 is used to guide applicants to STC (Major Change)</td>
<td>§21.93, AC MG-16</td>
<td>Davenport, Clark</td>
<td></td>
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<tr>
<td>Flight-Test/Human Factors</td>
<td>Maybe</td>
<td>No</td>
<td>Touch Screen Interface</td>
<td>An issue paper on the means of compliance for a touch screen as a control method is not needed. The touch screen intended function, pilot interface, and failure modes will be considered as part of the system evaluation. An issue paper may be required if there are mitigations against touchscreen functionality and failure modes.</td>
<td>AC 20-175, §771(a), 1301, 1309</td>
<td>Davenport, Clark</td>
<td></td>
</tr>
<tr>
<td>Flight-Test/Human Factors/Propulsion</td>
<td>Yes</td>
<td>No</td>
<td>Auto-pop and Warning Track for required instruments (Part time display of required information and green-range anomaly alerting)</td>
<td>A means of compliance issue paper will be required for Part-time display. Numerous issues arise when the required information is deselected thus needing warning track or other necessary mitigations.</td>
<td>AC 20-175, §771(a), 1301, 1309</td>
<td>Soth, Mitch</td>
<td>Davenport, Clark</td>
</tr>
<tr>
<td>Icing/Flight-Test</td>
<td>Yes</td>
<td>No</td>
<td>Full icing approvals</td>
<td>Due to the emerging rotorcraft fleet with full icing certification, directorate involvement will be required for full icing approvals. Full icing entails at least 2 icing tests (tunnel &amp; aircraft level)</td>
<td>SAE AC9C AC revision to 29.1419 material in work</td>
<td>Haight, Eric</td>
<td>Soth, Mitch</td>
</tr>
<tr>
<td>Propulsion</td>
<td>Maybe</td>
<td>No</td>
<td>Induction System Icing Protection</td>
<td>Industry and the FAA are facing challenges to certify unheated (passive) engine induction systems for icing requirements. Agreement on stabilized WIT test points accounting for performance losses, and requirements for inadvertent icing exposure are a few key issues that will need to be addressed. Affected regulations: SAE AC9C is working to develop ARP6601 to clarify requirements.</td>
<td></td>
<td>Haight, Eric</td>
<td>Soth, Mitch</td>
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<tr>
<td>Misc.</td>
<td>Maybe</td>
<td>No</td>
<td>Validation Projects</td>
<td>Any validation item generated by a foreign authority where the FAA is the certificating authority. Also, any requirements that are part of the foreign approval (e.g., TC, STC, etc.) that are not compatible with FAA regulations. This will ensure the RSS is made aware of any harmonization issues.</td>
<td>Order 8110.56B</td>
<td>Soth, Mitch</td>
<td></td>
</tr>
<tr>
<td>Misc.</td>
<td>No</td>
<td>No</td>
<td>Restricted Category TC application</td>
<td>According to Order 8110.56B, any application for a restricted category Type Certificate (TC) must involve the Rotorcraft Standards Branch when issuing the Type Certificate Data Sheet (TCDS)</td>
<td>Order 8110.56B</td>
<td>Hermann, Michael</td>
<td></td>
</tr>
<tr>
<td>Misc.</td>
<td>Maybe</td>
<td>No</td>
<td>Restricted Category IFR Certification</td>
<td>The Rotorcraft Standards Branch has seen multiple cases of Restricted Category Rotorcraft requesting approval for Instrument Flight Requirements (IFR) where the cockpit does not meet the requirements of 14 CFR Part 29 Appendix B.</td>
<td>14 CFR Part 29 Appendix B; AC 29-2C Appendix B</td>
<td>Hermann, Michael</td>
<td></td>
</tr>
<tr>
<td>Propulsion/Human Factors</td>
<td>Yes</td>
<td>No</td>
<td>Integrated Power Indicators other than traditional first limit indicators</td>
<td>Integrated power indicators used in lieu of primary power indicators (e.g., Nq, ITT, and TQ). A means of compliance issue paper will be required for integrated power indicators. Use of a PI usually allows deactivation of required primary powerplant indicators, thus, needing to establish certification criteria for acceptance of PI.</td>
<td></td>
<td>Haight, Eric; Soth, Mitch</td>
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<tr>
<td>Propulsion</td>
<td>Yes</td>
<td>Yes</td>
<td>30-minute All-Engines Operating (AEO) ratings</td>
<td>Most applicants are seeking the AEO rating, commonly at Takeoff power, for Search &amp; Rescue missions. Special conditions are required,</td>
<td>27/09.923, 29.1049, 27/09.1305, 27/09.1521</td>
<td>Haight, Eric</td>
<td></td>
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<tr>
<td>Drive Systems</td>
<td>Maybe</td>
<td>No</td>
<td>Major changes or Parts Manufacturing (PMA) for main gear box (MGB) and related drive systems</td>
<td>A means of compliance issue paper may be required when applicants propose endurance testing on the bench vs. the aircraft.</td>
<td>27/09.923</td>
<td>Edupuganti, Rao</td>
<td></td>
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<tr>
<td>Drive Systems</td>
<td>Yes</td>
<td>Maybe</td>
<td>Gear Tooth Bending Testing</td>
<td>Fatigue Tolerance Evaluation of Metallic Structure.</td>
<td>AC 29-2C 29.571B-1 (29.571 amdt 29-28) gives specific guidance on gear tooth fatigue evaluation, whereas 29.571 amdt 29-56 does not. Therefore, if 29.571 certification basis is greater than amdt 29-28 an Issue Paper may be necessary.</td>
<td>Edupuganti, Rao</td>
<td></td>
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<tr>
<td>Propulsion/Flight-Test</td>
<td>Maybe</td>
<td>No</td>
<td>Inlet Barrier Filter (IBF) systems</td>
<td>BFIs can have negative performance issues or can adversely affect inlet distortion. However, BFI systems must not invalidate engine manufacturer installation instructions. Policy Statement PS-ASW-27/29-07 was published 5/8/2017. AD 2018-18-12 resulted from a PMA that substituted a dry paper filter element for an oil wetted one. Such a substitution is not a “minor change” per 14 CFR 21.93.</td>
<td>PS-ASW-27/29-07</td>
<td>Hughlett, Michael; Jordan, Jon</td>
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<tr>
<td>Propulsion</td>
<td>Maybe</td>
<td>No</td>
<td>Fuel System Crash Resistance</td>
<td>Important to verify acceptable fuel tank drop test plan configuration and provide clear pass/fail criteria. No post test leakage is allowed.</td>
<td>27/09.952</td>
<td>Blyn, James; Haight, Eric</td>
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<tr>
<td>Propulsion</td>
<td>Yes</td>
<td>No</td>
<td>Time Limited Dispatch</td>
<td>A means of compliance issue paper will be required. To date, no approvals for TLD have been done for rotorcraft.</td>
<td></td>
<td>Blyn, James</td>
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<tr>
<td>Propulsion/Flight-Test</td>
<td>Maybe</td>
<td>No</td>
<td>Above Min-Spec Engine Performance</td>
<td>A means of compliance issue paper may be required. In addition to installation considerations, early coordination with EPD and engine manufacturer is needed. Issues arise when applicants exceed the ratings of the engine.</td>
<td></td>
<td>Edupuganti, Rao; Jordan, Jon</td>
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<tr>
<td>Discipline</td>
<td>Issue Paper (Yes/No/Maybe)</td>
<td>Special Condition (Yes/No/Maybe)</td>
<td>Subject Description Regs. AC's, &amp; Orders</td>
<td>POC</td>
<td>Additional Info</td>
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<tr>
<td>Security</td>
<td>Maybe</td>
<td>Maybe</td>
<td>Aircraft Electronic System Security Isolation or Protection from Internal access</td>
<td>A special condition issue paper may be needed to ensure isolation or protection if new access by internal systems is allowed to previously isolated data networks connected to systems that perform functions required for safe operation of the rotorcraft. For example, via wired and wireless access ports such as ground support equipment, PEDs, EFBs, maintenance computers and USB. PS-AR-21.16-02 Rev 2</td>
<td>John Vanhoudt, Brandli, Liz</td>
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<tr>
<td>Security</td>
<td>Maybe</td>
<td>Maybe</td>
<td>Aircraft Electronic System Security Isolation or Protection from Unauthorized External access</td>
<td>A special condition issue paper may be needed if access by external sources are allowed to aircraft systems, databuses or servers. For example, via wireless such as, Gatelink networks, cellular or the Internet. PS-AR-21.16-02 Rev 2</td>
<td>John Vanhoudt, Brandli, Liz</td>
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<tr>
<td>Software/Airborne Electronic Hardware</td>
<td>Maybe</td>
<td>No</td>
<td>Multi-Core Processors</td>
<td>A means of compliance issue paper may be required for the use of Multi-Core Processors if the applicant does not apply the guidance in draft AC 20-103. The use of these devices introduces a number of new issues that do not exist with traditional single core processors. AC 20-103 (draft)</td>
<td>Brandli, Liz</td>
<td></td>
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<tr>
<td>Software/Airborne Electronic Hardware</td>
<td>Yes</td>
<td>No</td>
<td>Artificial Intelligence/Machine Learning/Artificial Neural Networks</td>
<td>The existing systems, software and Airborne Electronic Hardware (AEH) guidance does not provide a means of compliance for the use of ANNs. ANNs may not be functionally reliable, can have non-deterministic behavior, and have a design implementation that may not be traceable to its requirements making it difficult to demonstrate that systems with ANNs will perform their intended function under all foreseeable operating conditions. 27/28 1309</td>
<td>Brandli, Liz</td>
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<tr>
<td>Software/Airborne Electronic Hardware</td>
<td>Yes</td>
<td>No</td>
<td>Airborne Electronic Hardware Custom Devices using COTS Intellectual Properties</td>
<td>A means of compliance issue paper may be needed for aircraft systems that utilize Airborne Electronic Hardware devices programmed with COTS intellectual properties. AC 20-152A (draft), 8110.105</td>
<td>Brandli, Liz</td>
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<tr>
<td>Software/Airborne Electronic Hardware</td>
<td>Yes</td>
<td>No</td>
<td>Airborne Electronic Hardware using Complex COTS devices.</td>
<td>A means of compliance issue paper may be needed for aircraft systems that utilize Airborne Electronic Hardware when using Complex COTS devices. AC 20-152A (draft), 8110.105</td>
<td>Brandli, Liz</td>
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<tr>
<td>Software/Airborne Electronic Hardware</td>
<td>Maybe</td>
<td>No</td>
<td>Management of Open Problem Reports</td>
<td>A means of compliance issue paper will likely be needed if an applicant or any of their suppliers intends to defer numerous resolutions and correction of software and airborne electronic hardware problems past the date of certification. AC 20-188 in work, AC 20-115D, 8110.49</td>
<td>Brandli, Liz</td>
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<tr>
<td>Software/Airborne Electronic Hardware</td>
<td>Maybe</td>
<td>No</td>
<td>Formal Methods</td>
<td>New/Novel Technology: Applicant using Formal Methods will need to apply the guidance in DO-178C and DO-333. Since the technology and guidance is new and novel additional oversight may be needed to ensure consistent application. AC 20-115D</td>
<td>Brandli, Liz</td>
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<tr>
<td>Software/Airborne Electronic Hardware</td>
<td>Maybe</td>
<td>No</td>
<td>Software/AEH Maturity prior to TIA</td>
<td>An issue paper may be needed to establish minimum software and airborne electronic hardware criteria prior to TIA. This is to ensure adequate information and safety mitigations are appropriate to proceed with FAA TIA per the SRB process. An issue paper should be used on Rotorcraft with Fly-by-Wire Flight Controls. Policy Statement in work</td>
<td>Brandli, Liz</td>
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<tr>
<td>Structures/Flight-Test</td>
<td>Maybe</td>
<td>Maybe</td>
<td>External Loads</td>
<td>Rotorcraft external loads intended for Human External Cargo (HEC). If the project is for Non-Human External Cargo (NHEC), then this SPL is not applicable. Note the approval being sought should be stated in the OPN Project description along with appropriate limitations as defined in AC 29-2, para 29.865B or AC27-1, para 27.865B of the approved documents. Human External Cargo (HEC) requirements of XX.865 were not codified until later 27/29 865 SAIB SW-18-15 SAFO 18004</td>
<td>Seth, Mitch</td>
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<tr>
<td>Structures</td>
<td>Yes</td>
<td>Maybe</td>
<td>Combination passenger &amp; cargo</td>
<td>Rotorcraft that includes a passenger and cargo configuration. This would consist of cargo storage areas open to the main cabin area. A special condition may be required due to the lack of regulations for combo configurations. Draft policy in work</td>
<td>Crane, Martin</td>
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<td>Discipline</td>
<td>Issue Paper (Yes/No/Maybe)</td>
<td>Special Condition (Yes/No/Maybe)</td>
<td>Subject</td>
<td>Description</td>
<td>Regs. AC's, &amp; Orders</td>
<td>POC</td>
<td>Additional Info</td>
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<tr>
<td>Structures</td>
<td>Yes</td>
<td>No</td>
<td>Exterior Vinyl covering</td>
<td>A means of compliance issue paper will be required since policy does not exist for exterior vinyl coverage. Vinyl coverings raise several issues such as installation near rotating components, control systems, engine inlet(s), windows, and emergency exits. Substantiation that the vinyl will not prevent discovery of a crack, adverse chemical reaction, deterioration, etc. 27/29.563, 27/29.801, AC MG-10</td>
<td>Crane, Martin</td>
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<tr>
<td>Structures</td>
<td>Maybe</td>
<td>No</td>
<td>Emergency Exit Lighting</td>
<td>The RSB has witnessed issues with Emergency Exit markings with photoluminescent designs in part 29. Issue paper is dependent upon the certification basis of the aircraft, to address 29.811. Photoluminescent material is not self-illuminated, it is powered by light. 27/29.563</td>
<td>Crane, Martin</td>
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<tr>
<td>Structures</td>
<td>Maybe</td>
<td>No</td>
<td>Ditching Approval or Emergency Floats</td>
<td>If an applicant is requesting optional Ditching approval, there is general misunderstanding of the sea states, model testing and water entry that RSB guidance may be required. New EASA rules may complicate validation projects in either direction. 27/29.603, 27/29.605, 27/29.613</td>
<td>Crane, Martin</td>
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<tr>
<td>Structures</td>
<td>Yes</td>
<td>Maybe</td>
<td>Hoist with an Overload Protection System (Clutch)</td>
<td>With the introduction of an overload protection system (OPS) to most hoist designs, a possible non-compliance to the rules may be introduced. An OPS is generally a load control clutch. 27/29.856(a), AC27-1B, AC29-2C</td>
<td>Crane, Martin</td>
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<tr>
<td>Structures</td>
<td>Yes</td>
<td>No</td>
<td>Design, Manufacturing, and Performance Standard for Composite Materials Used on Aircraft Seat Structures</td>
<td>For installation of seats that use composite materials in the load path, applicants will need to address the manufacturing, durability, strength and load path integrity of seats. There is a need to assure proper use of composites in seating systems. 27/29.561, 27/29.562, 27/29.603, 27/29.605, 27/29.613</td>
<td>Crane, Martin</td>
<td>SAE ARP 6337 provides acceptable methods that can be applied to rotorcraft seating systems and that meet FAA expectations.</td>
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<tr>
<td>Structures</td>
<td>Yes</td>
<td>No</td>
<td>Changing from skids to wheeled gear or wheeled gear to skids</td>
<td>A change in landing gear arrangement affects many part 27 and 29 regulations, and the certification basis needs to be reviewed with the standards branch. 27/29 Subpart 6 and C</td>
<td>Crane, Martin</td>
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<tr>
<td>Structures</td>
<td>Maybe</td>
<td>No</td>
<td>Non-metallic components adjacent to or near designated fire zones</td>
<td>With the introduction of an overload protection system (OPS) to most hoist designs, a possible non-compliance to the rules may be introduced. An OPS is generally a load control clutch. 27/29.856(a), AC27-1B, AC29-2C</td>
<td>Crane, Martin</td>
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<tr>
<td>Structures</td>
<td>Maybe</td>
<td>No</td>
<td>Finite Element Model Validation.</td>
<td>May need an issue paper to establish a means of compliance when a numerical (e.g. finite element) model is used to show compliance. Documentation plan should include model assumptions, uses, methods, verification, validation. 27/29.305, 27/29.307</td>
<td>Crane, Martin</td>
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<tr>
<td>Structures</td>
<td>Maybe</td>
<td>No</td>
<td>ALS Part Life Extensions or Flight Spectrum Changes</td>
<td>If an applicant is requesting approval of life extensions, changes in flight spectrums, etc, the Standards Branch expects complete information and data on required 27/29.571 fatigue testing requirements and potential flight load surveys and conservative flight spectrum development. Many old TCs have parts availability issues, and applicants are attempting to find other avenues to increase part lives in the ALS. 27/29.571, MG-11, MG-15 in AC27-1B &amp; AC29-2C</td>
<td>Crane, Martin</td>
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<tr>
<td>Noise</td>
<td>Maybe</td>
<td>No</td>
<td>Rotorcraft Noise</td>
<td>Part 36 for Helicopters was updated in May 2014 to Amendment 30. This amendment defined stage 3 rotorcraft noise limits. There is a path for stage 2 rotorcraft to be &quot;neutered&quot; as a Stage 3 compliant Rotorcraft. A means of compliance issue paper may be required for Amendments 28 or earlier. 14 CFR Part 36</td>
<td>Byn, James</td>
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Emerging Technology Maybe Maybe Radio Altimeters

Emerging Technology/Issue. 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.

Green, Charisse
(AIR-622)