EASA SSD/SEI combined list for Part 27 and 29 Rotorcraft Products

Revision Log:

Rev. 0	dated 22 March 2018	Initial Issue
Rev. 1	dated 23 April 2018	Revised to include SSD/SEI items # 06-01 to # 06-09 / # 08-01 to # 08-07 and # 08a-01 to # 08a-02, which were “reserved” in the initial issue.
Rev. 2	dated 14 March 2024	Revised to consider later CS-27/29 and FAR 27/29 amendments.

Revised items: 01-02, 01-03, 01-13, 03-02, 03-03, 03-04, 03-05, 03-06, 03-08, 07-05, 07-07, 07-13, 08-01, 08-02, 10-01, 10-02, 10-03, 10-04, 12-02, 12-03, 12-04, 13-01, 13-02, 13-03, 13-05, 13-06, 13-08, 14-01.

Removed items: 01-18, 01-19, 04a-10, 07-02, 07-06, 07-14, 10-05 (merged with 10-04), 10-06 (merged with 10-04), 12-01, 13-04.

New items: 01-22, 01-23, 01-24 (replacing 01-18, 01-19, 04a-10), 03-09, 03-10, 03-11, 06-09, 06-10, 10-09 (replacing 12-01), 14-02, 14-03 14-04.

Assumptions.

This SSD/SEI Combined List is based on the following standards amendments:

CS 27 Amdt. 10 vs. FAR 27 Amdt. 50
CS 29 Amdt. 11 vs. FAR 29 Amdt. 57

When SSDs do not qualify as SEI, they don’t trigger a non-basic classification and compliance findings with the VA Certification Baseline are delegated to the CA.

Notes:

(1) Airworthiness standards where the VA’s and CA’s interpretive, advisory, MoC, or guidance materials differ or are insufficient, to an extent that those differences impact the level of safety required by the VA system and could result in VA required changes to the type design or approved manuals
(2) New VA standards or certain SSDs where the VA or CA has limited past experience with the application to a product, they have an important impact on the whole product or a critical feature, and engineering judgment is required to establish compliance
(3) Items identified for special emphasis by the VA in a data-driven risk assessment analysis for the product class
(4) Subjects linked to known safety conditions that the VA has identified, and for which the VA either has taken, or is in the process of taking airworthiness action

Clarifications on the published list can be sought at vtol@easa.europa.eu

ID	Subject	Part 27	Part 29	Affected paragraphs	Description	EASA position	SSD	Safety Emphasis Item (SEI)			
								(1)	(2)	(3)	(4)
Flight Test and Human Factors											
# 01-01	External loads	Y	N	§ 27.865(c)(6)	External Loads Attaching Means: OEI hovering capability for Human External Cargo (HEC).	Compliance with CS 27.865(c)(6) is required for HEC approvals. FAR 27 does not have the same paragraph. FAA has different operating rules under 133.45 requiring a Transport category aircraft with CAT A certification for Class D external loads.	Y	N	N	N	N
# 01-02	Engine Installation	Y	Y	§ 27/29.1585	Engine restart capability demonstration for single engine helicopters.	It is EASA policy that engine restart procedures included in the RFM are validated in flight. Whenever the engine restart capability has not been demonstrated in flight, a clear indication should be included in the RFM Emergency Procedures Section per AMC1 27.903(d) / AMC1 29.903(e).	N	Y	N	N	N
# 01-03	Non-required equipment or capabilities	Y	Y	§ 27/29.1301 AMC1 27.1301 AMC1 29.1301	The intended function of non-required equipment or capabilities (e.g. LPV capability on VFR rotorcraft) is to be stated in the RFM and compliance demonstration has to be shown accordingly.	EASA expects applicants to clearly identify the intended function of non-required equipment or capabilities to be stated in the RFM and compliance demonstration has to be shown accordingly. No credit will be given to any of these equipment or capabilities not tested to be shown functioning as expected. For what is concerning the Flight Test and Human Factor discipline, only LPV capability demonstration is retained as SEI.	N	Y	N	N	N
# 01-04	H-V diagram	Y	Y	§ 27.79 and § 29.87	H-V diagram demonstration.	The H-V diagram is a critical area where the rotorcraft limits are approached and therefore a sound judgment of the “normal piloting skill” is required. This item qualifies as SEI only for new single engine helicopters or for changed products, when the H-V diagram is significantly modified.	N	Y	N	N	N
# 01-05	Controllability	Y	Y	§ 27/29.143	Low Speed Controllability	In low speed regime, reduced control margins are typically encountered (below those specified in the AC material) and authority flight test crew direct exposure is essential to confirm their acceptability. This is particularly true: • in high altitude conditions, where the control power is reduced and the engine operating characteristics may become a limiting factor, or • with external loads. This item qualifies as SEI only for new helicopter types or for changed products, when the controllability of the helicopter is significantly affected.	N	Y	N	N	N

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# 01-06	Category A	Y	Y	Various Subpart B paragraphs	Category A Take Off and Landing Procedures definition.	Non-compliances in defining Category A limitations and procedures may result in unsafe conditions. Although CS and FAR are the same in terms of Category A requirements, in developing their Category A procedures, manufacturers use methodologies that are quite different. In addition, experience has shown that, in order to cope with the wide operational scenarios, Category A can include many different procedures (ranging from clear runway to elevated heliports and off-shore procedures). Therefore, the definition of the associated performance and the evaluation of the crew workload are essential elements for Category A approval. This item qualifies as SEI only for new helicopter types or for changed products, when new Category A procedures are introduced in the RFM or are significantly affected.	N	Y	N	N	N
# 01-07	LPV with Steep Approaches	Y	Y	Various	Steep approaches surface criticalities in defining minimum and maximum speeds, rate of descent, cross and tail wind, intercept angle, …	Steep approaches surface criticalities in terms of definition of a safe flight envelope. In addition, if steep approaches are flown with the autopilot (coupled or uncoupled) the limits of the autopilot performance are usually approached. As of today, harmonization has not been reached on the minimum performance standards applicable to steep angles, low speed approaches. Applicable references for EASA: • Generic CRI on Steep Approaches.	N	Y	N	N	N
# 01-08	Night Vision Imaging System (NVIS)	Y	Y	Various	Full NVIS approval of a helicopter model.	EASA has developed its own policies and procedures that are captured in the Certification Memorandum on NVIS approval. The EASA Certification Memorandum clarifies the differences with respect to the current MG-16. This item qualifies as SEI only for new TCs, new STCs or product major changes aimed at achieving full NVIS certification. Applicable references for EASA: • CM-FT-001	N	Y	N	N	N
# 01-09	Attitude indication.	Y	Y	§ 27/29.1309	Non harmonized FHA for misleading attitude indication at night VFR.	EASA has different FHA classifications for certain operationally required equipment. Some failure conditions classifications currently included in AC 27/29 MG-21 are not fully harmonized among authorities, in particular for misleading attitude information at night. This item qualifies as SEI only when the applicant proposes a classification of this failure condition (i.e. misleading attitude) not in line with AC 27/29 MG-21 Change 7.	N	Y	N	N	N

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# 01-10	Pilot Visibility in falling / blowing snow for non-turbine rotorcraft	Y	N	§ 27.773	Pilot Visibility in falling / blowing snow for non-turbine rotorcraft.	While not being an issue for a non-turbine rotorcraft from a powerplant perspective, flight in falling / blowing snow conditions can be an issue in terms of pilot visibility and needs to be assessed in flight. An EASA special condition for ensuring pilot visibility has been established and applied since then. The FAA has not issued any equivalent SC addressing this subject. Applicable references for EASA: • Special Condition	N	Y	N	N	N
# 01-11	Inlet Barrier Filter (IBF)	Y	Y	§ 27/29.45 and other paragraphs	IBF installation with regard to limitations and performance determination.	IBFs may have a major impact on helicopter performance, being them subjected to environmental contamination. Experience has shown that the certification approach is not yet fully harmonized and advisory material is still insufficient.	N	Y	N	N	N
# 01-12	Human External Cargo	Y	Y	Various	Human Machine Interface for cockpit controls.	Implementation of load release cockpit controls for HEC installations and pilot HMI evaluation are critical in terms of safety as there is a large variety of implementations not consistently supported by the available guidance material. EASA position is that compliance is not always straight forward for what is concerning human-machine interface evaluation of the load release mechanism.	N	Y	N	N	N
# 01-13	Human Machine Interface and minimum crew determination	Y	Y	§ 27/29.1523 and other paragraphs	Human Machine Interface and minimum crew determination in case of a cockpit design characterized by high level of integration.	Human Machine Interface and minimum crew determination in case of a cockpit design characterized by high level of integration may be very challenging and is not fully captured by the current rules and guidance material. Past certification and validation activities revealed that differences in operational rules and requirements influence how authorities treat certification and mitigations for crew workload issues. This item qualifies as SEI only for new TCs or product changes significantly affecting cockpit installations.	N	Y	N	N	N
# 01-14	Special Operations	Y	Y	Various	Installations designed for special operations, like agricultural installations, firefighting, power line survey….	Some of these installations showed to be problematic when they had to be validated by EASA as they were developed taking into account the US national operating rules (e.g. FAR 133) and possibly moving the modified aircraft into the Restricted Categories, which do not have any equivalence in Europe.	Y (Part 21)	N	Y	N	N
# 01-15	Open Problem Reports.	Y	Y	MoC to §27/29.1309	Open Problem Reports that result in RFM Limitations or affect emergency procedures as compensating means.	Open Problem Reports that result in • RFM Limitations, or • Emergency dedicated procedures (i.e. specific, unusual), or • Extensive change of the standard Emergency procedures as compensating means qualifies as SEI.	N	Y	N	N	N

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# 01-16	Icing	Y	Y	§ 27/29.1419	Full Icing approval	Flight evaluation in known icing conditions is critical for safe rotorcraft operations, in terms of handling qualities, rotorcraft performance degradation and assessment of icing protection system functionalities. A very limited number of rotorcraft products has been approved for flight in known icing conditions during the past decades and the available advisory material (see AC 29.1419), that was developed many years ago, does not always provide the status of the art of guidance for compliance demonstration.	N	Y	N	N	N
# 01-17	Flight Controls - Handling qualities demonstration for fly-by-wire helicopters	Y	Y	§ 27/29 Subpart B Handling Qualities requirements and Appendix B	Existing standards and guidance are not adequate to address the design of Advanced Flight Controls (AdFC) and require additional guidance to be provided through CRIs.	Fly-by-wire advisory material proposed by FAA in the MG 17 was not fully harmonized and it is currently not endorsed by EASA. Given the importance of the subject for the overall safety level of rotorcraft, the requirements and the related means of compliance need to be agreed with EASA.	N	Y	N	N	N
# 01-18	[reserved]										
# 01-19	[reserved]										
# 01-20	TCAS II	Y	Y	Various	TCAS II performance demonstration and Human Machine Interface.	There is no harmonized interpretative material providing guidance on how to show compliance (e.g. helicopter climb performance capability to follow the RA, HMI characteristics of the installation, ...) Given the importance of the subject for the overall safety level of rotorcraft, the means of compliance need to be agreed with EASA. Applicable references for EASA: • Generic CRI on TCAS II.	N	Y	N	N	N
# 01-21	Pilot Compartment View	Y	Y	§ 27/29.773	Vision systems with transparent displays (e.g. head up-display, head mounted display, …)	14 CFR 27.773 was changed at Amdt. 27-48, 3/2017 and 29.773 was changed at Amdt. 29-56 3/2017 to add rule provisions to cover future HMDs. CS 27/29.773 do not have equivalent provisions. Given the importance of the subject for the overall safety level of rotorcraft, the requirements and the related means of compliance need to be agreed with EASA.	Y	Y	Y	N	N

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# 01-22	Pilot Compartment View	Y	Y	§ 27.773 (b) § 29.773 (a)(2)	Certification for night operations.	14 CFR 27.773 was changed at Amdt. 27-49 and 14 CFR 29.773 was changed at Amdt. 29-57 to include the option for a ground test in lieu of a night flight test when showing of compliance for night operations is required. CS 27/29.773 do not allow ground tests as a means of compliance, for which reason EASA expects applicants to show compliance by night flight tests for those design changes to be validated in Europe. This item qualifies as SEI only for new TCs, new STCs or product major changes significantly affecting the cockpit lighting.	Y	Y	N	N	N
# 01-23	Human factors	Y	Y	§ 27.1302 § 29.1302	Human Factors associated with installed systems and equipment for use by the crew members	14 CFR Part 27 and Part 29 don't have equivalent provisions. EASA expects applicants seeking validation in Europe of their design to adopt these requirements whenever required by Part 21.A.101 and in accordance with the provisions of the bilateral agreement between the USA and the EU. Given the importance of the subject for the overall safety level of rotorcraft and the novelty of the requirements, this item qualifies as SEI for all design changes involving human factors demonstrations.	Y	Y	Y	N	N
# 01-24	AFCS	Y	Y	27/29.672, 1301, 1309, 1329, Appendix B VII	Some AFCS functions may need guidance for compliance with the applicable regulations. This is typically the case of: **Advanced AFCS functions** **Modes enabling automated Take-Off and Landing or automated offshore approaches** **Modes designed for Search and Rescue (SAR) missions** and associated FMS steering do not have a set of dedicated requirements.	Given the criticality for the rotorcraft safety level, requirements or guidance need to be developed and agreed with EASA for advanced AFCS functions. Advanced AFCS functions typically provide enhanced stabilization and control or envelope protections, e.g.: - Limit Cueing on Attitude / VNE or airspeed - LVL mode - Power limiting functions - Collective safety functions - Unconventional control laws (Trim Follow-Up modes, Ground Speed/Track Modes…) EASA has dedicated CRIs for automated take-off and landing modes and for offshore approaches. For SAR modes approval, FAA and EASA have Special Conditions that are not fully harmonized. Applicable references for EASA: - SAR Modes Special Condition	N	Y	N	N	N

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Structures											
# 03-01	Yawing conditions	Y	Y	§ 27/29.351 (a)	Determination of design load conditions for yaw manoeuvres.	Differences may arise between certificating authorities and applicants in the selection of the design criteria for components (and their supporting structure) that are principally subjected in flight to significant aerodynamic loads (e.g. vertical empennage, fins, cowlings and doors). For these components and their supporting structure, suitable design criteria should be developed by the applicant and agreed with EASA (see AMC 27/29.351(a)). This is a major difference with the current FAA AC 27-1B and 29-2C material that may not necessarily be adequate for EASA. Given the importance of the subject for the overall safety level of rotorcraft, the means of compliance needs to be agreed with EASA This item qualifies as SEI for new TCs, derivative models and changes significantly affecting the design loads assumed for certification. Applicable references for EASA: • AMC 27/29.351.	N	Y	N	N	N
# 03-02	Control loads	Y	Y	§ 27/29.395 (b)(2)&(3)	§ 27/29.395 is considered only applicable from the pilot controls to the output shaft of the main and tail servo actuators.	Experience has shown that differences may arise between certificating authorities (and applicants) in the selection of the design conditions (nominal and failure conditions, including jamming) for flight control segments located between the servo-actuators and the blades. Given the importance of the subject for the overall safety level of rotorcraft, the means of compliance need to be agreed with the CA and the VA. Applicable references for EASA: • AMC1 27.395 and AMC1 29.395 on control system.	N	Y	N	N	N
# 03-03	Seat adapter plate	Y	Y	§ 27/29.562 (a)	Additional guidance is needed on seats installed on adapter plates (pallets or plinths) for rotorcraft that include § 27/29.562 in their certification basis.	In lack of detailed guidance, the means of compliance for seats installed on adapter plates (pallets or plinths) for rotorcraft, that include § 27/29.562 in their certification basis, should be agreed with EASA. EASA has developed a Generic CRI on this topic, which is now part of AMC in CS-27/29, related to the use of adapter plates or plinths for the fitment of seats to the aircraft and the need to test the adapter plate / plinth as part of the seat test. The objective is to clarify and complement the existing FAA policies (FAA AC 25.562-1B and FAA PS-ANM100-000129). This subject qualifies as SEI until further harmonized policy will bridge the gap between the information contained in the EASA CRI and the FAA Guidance and Policy Statement. Applicable references for EASA: • AMC3 27.307 and AMC3 29.307 on Proof of structure	N	Y	N	N	N

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# 03-04a	Ditching. (up to CS 27/29 Amdt. 4)	Y	Y	§ 27/29.563 § 27/29.801 (e)	The rule prescribes that structural strength for ditching shall meet the requirements of 27/29.563 and 27/29.801 (e). However no guidance indicate to which static load level ditching justification is expected.	Experience has shown that differences may arise between certificating authorities (and applicants) in the selection of Limit vs Ultimate loads conditions used to substantiate rotorcraft structures in case of ditching. Given the importance of the subject for the overall safety level of rotorcraft, the means of compliance needs to be agreed with EASA. Applicable references for EASA: • Generic CRI on ditching loads	N	Y	N	N	N
# 03-04b	Ditching and Emergency Flotation. (CS 27/29 Amdt. 5 or later)	Y	Y	CS 27/29.563 CS 27/29.801 (f) CS 27/29.802 (b)(c)	The rule prescribes that structural strength for ditching or emergency flotation shall meet the requirements of 27/29.563 and 27/29.801 (f) or 27/29.802 (b)(c) respectively.	The water entry scenarios, sea condition definition and the means to determine the load conditions have been revised at Amdt. 5 of CS 27/29. Given the importance of the subject for the overall safety level of rotorcraft and the novelty of the requirement, the means of compliance needs to be agreed with EASA. EASA retains verification of compliance demonstration with this requirement when compliance with this amendment or later is adopted for the first time on a specific product or by an applicant.	Y	Y	N	N	N
# 03-05a	Fatigue and damage tolerance on metallic structure	N	Y	§ 29.571	The showing of compliance with this new fatigue and damage tolerance requirement for metallic structures is a complex task and experience has shown that the interpretation of the applicable guidance is not fully harmonized.	Given the importance of the subject for the overall safety level of rotorcraft, the means of compliance need to be agreed with EASA. EASA retains verification of compliance demonstration with this requirement for new type certifications, derivative models or design changes, when compliance with this requirement is adopted for the first time or a new methodology is proposed.	N	Y	N	N	Y
# 03-05b	Fatigue and damage tolerance on metallic structure – Rolling contact fatigue	Y	Y	§ 27.571 § 29.571	The impact of rolling contact fatigue on the fatigue and/or damage tolerance evaluation should be taken into consideration. EASA has issued dedicated AMC in CS-27/29.	Service experience has shown the need to address rolling contact fatigue as a damaging mechanism to be considered within the fatigue and tolerance evaluations of §27/29.571. EASA retains verification of compliance demonstration with this requirement for new type certifications or derivative models when compliance with this requirement is adopted for the first time. EASA also retains the compliance demonstration for changes that adversely affect the fatigue or damage tolerance characteristics of parts subject to rolling contact fatigue, which typically includes, but is not limited to, bearing races and rolling elements and gear teeth. This includes in particular planet gears with integrated bearing races. Applicable EASA references: • AMC1 27.571. • AMC1 29.571.	N	Y	N	N	Y

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								(1)	(2)	(3)	(4)
# 03-06	Composite structures	Y	Y	§ 27/29.573	The showing of compliance with this requirement for composite structures is a complex task and experience has shown that the interpretation of the applicable guidance is not fully harmonized.	Given the importance of the subject for the overall safety level of rotorcraft, the means of compliance need to be agreed with EASA. EASA retains verification of compliance demonstration with this requirement for new type certifications or derivative models when compliance with this requirement is adopted for the first time. EASA has developed AMCs in CS-27/29 and published Certification Memoranda to compensate for the lack of guidance on composite applications. It is important to ensure that authorities apply the rule in the same way for initial and subsequent applications. Applicable references for EASA: • CM-S-010 Composite materials - The Safe Design and Use of Monocoque Sandwich Structures • CM-S-005 Bonded Repair Size Limits • CM-S-004 Acceptance of Composite Specifications and Design Values Developed using the NCAMP Process. • AMC1 27.613 and AMC1 29.613 on Material strength properties and design values.	N	Y	N	N	Y
# 03-07	Fuel tank crashworthiness - Compliance with external equipment/external loads	Y	Y	§ 27/29.952(a)(4) § 27/29.865	External installations (including but not limited to external loads attachment means certified under 27/29.865) could be part of the surrounding structure and their impacts against § 2729.952 (a)(4) need to be evaluated.	As of today, harmonization among authorities on this approach has not been reached. Therefore, the means of compliance need to be agreed with EASA. EASA retains verification of compliance demonstration with this requirement for new type certifications or derivative models when compliance with this requirement is adopted for the first time and changes invalidating the certification assumptions for fuel system crashworthiness. A verification of compliance with the fuel system crashworthiness requirements when equipment are installed at the vicinity of the fuel tanks is also required by EASA. Applicable references for EASA: • Generic CRI	N	Y	N	N	N

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# 03-08	Standard fasteners	Y	Y	§ 27/29.601 § 27/29.602 § 27/29.603 § 27/29.605 § 27/29.607	Use of standard fasteners in critical installations.	Experience has shown that standard parts are used in critical installations and may compromise the intended level of safety. Given the importance of the subject for the overall safety level of the rotorcraft, applicant shall consider to minimise the use of standard fasteners in critical installation. EASA has issued a certification memorandum providing guidance on this subject and the means of compliance need to be agreed with the Agency. EASA retains verification of compliance demonstration with these requirements for new type certifications, derivative models and changes invalidating the certification assumptions on use of standard fasteners in critical installations. Applicable references for EASA: • CM-S-003 Standard fasteners • AMC1 27.607 and AMC1 29.607 on fasteners.	N	Y	N	N	Y
# 03-09	Bird strike	Y	N	§ 27.631	Bird strike windshield capability requirement has been added with CS 27 Amdt. 9 for rotorcraft with six or more passenger seats.	FAR 27 does not have this requirement. Applicable references for EASA: • AMC1 27.631	Y	N	N	N	N
# 03-10	Design limitations	Y	Y	§ 27.309 § 29.309	The maximum and minimum density altitude and temperatures must be established to show compliance with the structural requirements of Subpart C.	The entire operational density envelope must be considered when showing compliance with the structural requirements. FAA Title 14 Part 27.309 and Part 29.309 do NOT include this requirement,	Y	N	N	N	N
# 03-11	Limit manoeuvering load factors	Y	Y	§ 27/29.337 and § 27/29.339	Maximum positive limit manoeuvring load factor, with both power on and power off design rotor speed ranges throughout the entire operational density envelope.	The maximum limit manoeuvring load factors are applicable to both the power on and power off design rotor speed ranges established in CS27/29.309(b) and throughout the maximum and minimum density altitude and temperatures established in CS27/29.309(h). #1 If the rotorcraft is substantiated to a positive limit manoeuvring load factor less than 3.5 (but not less than +2.0) in accordance with CS27/29.337(b), the maximum available rotor lift with both design power on and design power off rotor speed ranges throughout the entire air density, flight speeds and centre of gravity/weight envelopes should be considered. #2 In accordance with 27/29.339, the loads resulting from the application of limit manoeuvring load factors defined in CS27/29.337(a) or (b) are assumed to act in directions and with distributions of load, so as to represent each critical manoeuvring condition, including up to both the power-on and power-off maximum design rotor speeds and throughout the entire operational density envelope.	N	Y	N	N	N

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						Given the importance of the subject for the overall safety level of rotorcraft, EASA retains agreement of MOC for #1 when a limiting load factor less than 3.5 is selected and the methodology has not been previously agreed with EASA for the specific product but not for #2 provided that the MOC is aligned with EASA expectations clarified above. Applicable references for EASA • AMC1 27.337 and AMC1 29.337					
Hydromechanical Systems											
#04-01	External loads	Y	Y	§ 27/29.865	Significant differences on the acceptable MoC for external loads were introduced in the recently published AC Change 7, which has not been recognized by EASA. In addition, several ADs addressing safety concerns on hoist overload protection were published by EASA for all helicopter types and they were not endorsed by the FAA.	EASA has not recognized AC 27/29.865 Change 7 and has developed AMC guidance, which does not have equivalent acceptable MoC. Additionally, EASA has also issued the CM–HS-004. FAA AC 27-1B / 29-2C Change 7 may not necessarily be adequate for EASA for the design of rotorcraft external loads (e.g. definition of what is catastrophic, position of the attachment of the hoist operator harness, distinction between simple and complex PCDS). Given the importance of the subject for the overall safety level of rotorcraft performing external loads operations, the means of compliance need to be agreed by EASA. Therefore, this item is retained as SEI for major changes affecting 27/29.865. Applicable references for EASA: • EASA ADs: 2013-0077-E, 2013-0275, 2014-0201, 2014-0254, 2015-0069, 2015-0160 and 2015-0226. • CM–HS-004 on External Loads • AMC 27/29.865.	N	Y	N	N	Y
#04-02	Hydraulic systems	Y	Y	§ 27/29.1435(a) § 27/29.1435(b)	§ 27/29.1435 does not specify any minimum design factor for the ultimate pressure (burst pressure).	Given the importance of the subject for the overall safety level of rotorcraft, the ultimate (burst) pressure design factors need to be acceptable to EASA. This subject qualifies as SEI only when the applicant decides not to follow SAE AS 5440A for Design Ultimate Pressure Factor(s) (DUPF) determination. In that case, MoC need to be agreed with the Agency. Applicable references for EASA: • Generic CRI	N	Y	N	N	N

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#04-03	Electrically Actuated Extension / Retraction System	Y	Y	§ 27/29.729	The design of electrically-powered actuators for Landing Gears requires specific guidance that is not available in the current material.	Given the importance of the subject for the overall safety level of rotorcraft, EASA has developed a CRI addressing Electrically Actuated Extension / Retraction System expectations for compliance with the applicable regulations. Means of compliance need to be agreed with EASA. Applicable references for EASA: • Generic CRI	N	Y	N	N	N
#04-04	Electrically-Powered Wheel Brake Assemblies	Y	Y	§ 27/29.731(a) § 27/29.735	The design of an Electrically-Powered Wheel Brake Assembly requires specific guidance that is not available in the current material.	As of today, there is no issued (E)TSO for electric brake approval on rotorcraft. Given the importance of the subject for the overall safety level of rotorcraft, EASA has developed a CRI addressing the minimum performance standards for Electrically Powered Wheel Brake assemblies. Means of compliance need to be agreed with EASA. Applicable references for EASA: • Generic CRI	N	Y	N	N	N
Advanced Flight Controls											
#04a-01	Flight Controls - Control Signal Integrity, MoC	N	Y	§ 29.671, 29.672, 29.674, 29.1301, 29.1309(a)(b)(c)(d), 29.1329, 29.1353(a) and 29.1431	Existing standards and guidance are not adequate to address the design of Advanced Flight Controls (AdFC) and require additional guidance to be provided through IPs or CRIs.	Given the importance of the subject for the overall safety level of rotorcraft, the means of compliance need to be agreed with EASA. Applicable references for EASA: • Generic CRI	N	Y	N	N	N
#04a-02	Flight Controls - Interaction of Systems and Structure, SC	N	Y	§ 25.302 introduced by SC	Existing standard and guidance are not adequate to address the design of Advanced Flight Controls (AdFC) and require additional requirements through SC.	Given the importance of the subject for the overall safety level of rotorcraft, a Special Condition has already been published. Applicable references for EASA: • Special Condition	N	Y	N	N	N
#04a-03	Flight Controls - Flight Crew Awareness of Mode of Operation Annunciation, SC	N	Y	§ 29.671 § 29.672	Existing standards and guidance are not adequate to address the design of Advanced Flight Controls (AdFC) and require additional requirements through SC.	Given the importance of the subject for the overall safety level of rotorcraft, a Special Condition needs to be developed.	N	Y	N	N	N
#04a-04	Flight Controls - Flight Control and Critical Displays in All Attitudes, SC	N	Y	§ 29.671, 29.672, 29.1301 and 29.1309	Existing standards and guidance are not adequate to address the design of Advanced Flight Controls (AdFC) and require additional requirements through SC.	Given the importance of the subject for the overall safety level of rotorcraft, a Special Condition needs to be developed.	N	Y	N	N	N

ID	Subject	Part 27	Part 29	Affected paragraphs	Description	EASA position	SSD	Safety Emphasis Item (SEI)			
								(1)	(2)	(3)	(4)
#04a-05	Flight Controls - Control Margin Awareness, SC + MoC	N	Y	§ 29.143 and 29.771(a)	Existing standards and guidance are not adequate to address the design of Advanced Flight Controls (AdFC) and require additional requirements through SC and guidance to be provided through IPs or CRIs.	Given the importance of the subject for the overall safety level of rotorcraft, a Special Condition needs to be developed and the means of compliance need to be agreed with EASA. Applicable references for EASA: • Generic CRI	N	Y	N	N	N
#04a-06	Flight Controls - Flight Envelope Protection, SC	N	Y	§ 29.143 , 29.671, 29.672, 29.779(a), 29.1309, 29.1329	Existing standards and guidance are not adequate to address the design of Advanced Flight Controls (AdFC) and require additional requirements through SC.	Given the importance of the subject for the overall safety level of rotorcraft, a Special Condition needs to be developed.	N	Y	N	N	N
#04a-07	Flight Controls - Formalization of Compliance Demonstration to CS 29.143, 29.671, 29.672, 29.1301, 29.1309 for Flight Control Laws, MoC	N	Y	§ 29.143, 671, 672, 1301, 1309	Existing standards and guidance are not adequate to address the design of Advanced Flight Controls (AdFC) and require additional guidance to be provided through CRIs.	Given the importance of the subject for the overall safety level of rotorcraft, the means of compliance need to be agreed with EASA. Applicable references for EASA: • Generic CRI	N	Y	N	N	N
#04a-08	Flight Controls - Consideration of Common Mode Failures and Errors in Flight Control Functions, MoC	N	Y	§ 29.601, 671, 672, 1309(b), 1585	Existing standards and guidance are not adequate to address the design of Advanced Flight Controls (AdFC) and require additional guidance to be provided through CRIs.	Given the importance of the subject for the overall safety level of rotorcraft, the means of compliance need to be agreed with EASA. Applicable references for EASA: • Generic CRI	N	Y	N	N	N
#04a-09	Flight Controls - MG 17 and AdFC Flight Control Policy (PS-ASW-27,29-09)	Y	Y	Various	This guidance was published to provide a policy on AdFC. Full harmonization was not achieved prior to release and publication of this policy and guidance.	EASA has not recognized guidance given by MG-17 and AdFC Policy Statement and therefore the means of compliance need to be agreed with EASA.	N	Y	N	N	N
#04a-10	[reserved]										

ID	Subject	Part 27	Part 29	Affected paragraphs	Description	EASA position	SSD	Safety Emphasis Item (SEI)			
								(1)	(2)	(3)	(4)
Electrical Systems / HIRF / Lightning /EMC											
# 05 -01	High Intensity Radiated Field (HIRF)	Y	Y	EASA SC HIRF FAA IP SC HIRF § 27/29.1317	Standards for HIRF certification.	Full harmonization between EASA and FAA has not been reached on this subject during the years, i.e.: • Before 2006: FAA IP SC and EASA SC did not address the same requirements. This qualifies as SEI. • Between 2006 and 2016: FAA introduced FAR 27/29.1317, while EASA continued to raise SC without recognizing FAR 27/29.1317 (d). This qualifies as SSD and SEI. • After 2016: EASA introduced CS 27/29.1317 without addressing subparagraph (d). FAR 27/29.1317 (d) still qualifies as SSD and SEI. This SEI is only retained for Part 27 Level A systems. Compliance verification with EASA SC or CS 27/29.1317 for Part 27 Level B and C systems and Part 29 (all Levels) is delegated to the FAA. Applicable references for EASA: • Special Condition when CS 27/29.1317 is not adopted.	Y	N	Y	N	N
# 05-02	Electrical Wiring System	Y	Y	§ 27/29.1309, 1353, 1359	Guidance on Electrical Wiring Installation.	EASA relies on TGM 21/7, while there are no dedicated ACs or FAA policies on this subject. This item qualifies as SEI only for new TCs or derivative models. Applicable references for EASA: • Generic CRI endorsing TGM 21/7	N	Y	N	N	N
# 05-03	Solid State Power Contactor (SSPC) - Circuit Protective Devices Accessibility	Y	Y	§ 27/29.1357	Existing guidance on SSPC is not harmonized.	EASA and the FAA have both developed guidance on SSPC. However, the interpretative material is not fully harmonized and design recommendations are not fully shared. Given the importance of the subject for the overall safety level of rotorcraft, the means of compliance need to be agreed with EASA. Applicable references for EASA: • Generic CRI	N	Y	N	N	N
# 05-04	WLAN	Y	Y	§ 27/29.1301 § 27/29.1309. § 29.1353 § 29.1431	WLAN applications.	EASA IM addresses recommendations specific to WLAN technology, while the FAA AC addresses general recommendations to non-essential Cabin systems. Given the importance of the subject for the overall safety level of rotorcraft, the means of compliance need to be agreed with EASA. Applicable references for EASA: • Generic CRI	N	Y	N	N	N

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								(1)	(2)	(3)	(4)
# 05-05	Electrical Structural Network (ESN)	Y	Y	Various	The Electrical Structural Network provides electrical continuity in case of composite material structure (Earth, bonding, EMC protection…)	EASA has developed guidance on ESN for rotorcraft adapted from large airplane applications, while FAA has no equivalent material for rotorcraft for the time being. Given the importance of the subject for the overall safety level of rotorcraft, the means of compliance need to be agreed with EASA.	N	Y	N	N	N
Avionics											
# 06-01	Autopilot	Y	Y	§ 27/29.1301, § 27/29.1309, § 27/29.1322, § 27/29.1581, § 27/29.1585	Autopilot-TCAS coupling.	There is no harmonized interpretative material providing guidance on how to show compliance. It may differ in the colour of mode depiction and / or aircraft performance in relation to rate of climb vs threat aircraft minimum separation altitude. There is the need to establish acceptable means of compliance for using the Autopilot / Auto Throttles / Flight Director during a TCAS Resolution Advisory maneuver.	N	Y	N	N	N
# 06-02	Voice Control / Input	Y	Y	§ 27/29.1301	Voice Control / Input.	It is necessary to establish guidance as well as concept demonstration. Different European Accents are to be considered in the scope of the demonstration.	N	Y	N	N	N
# 06-03	Voice Control / Output	Y	Y	§ 27/29.1301	The type of information being subject to dynamic voice output (not pre-composed strings / messages) may differ.	New guidance may be necessary to be developed to address which systems –and- why could transmit voice messages, e.g. Checklists, emergency procedures etc. This item does not qualify as SEI for pre-composed strings / messages as aural warnings.	N	Y	N	N	N
# 06-04	Touchscreens.	Y	Y	§ 27/29.771, § 27/29.773, § 27/29.777, § 27/29.1301, § 27/29.1309, § 27/29.1322, § 27/29.1381, § 27/29.1523, § 27/29.1529, § 27/29.1555	Touch Screen Interface and Control Devices in Flight Deck.	Touchscreens are very flexible interfaces that can blend different functions and systems at the interface level. Guidance may be necessary to maintain prioritisation of functions and to address human machine interface issues. This item does not qualify as SEI for COMM/NAV/FMS systems with a screen size which can be operated from a fix reference point. Screen sizes requiring large hand movements potentially create human machine issues. It is why they are retained by EASA for verification, as well as all the other touchscreen applications.	N	Y	N	N	N
# 06-05	EVS (Enhanced Vision Systems)	Y	Y	Various	Enhanced Vision Systems certification.	EASA anticipates that special requirements and guidance might be needed, as well as agreement on the acceptable means of compliance.	N	Y	N	N	N

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								(1)	(2)	(3)	(4)
# 06-06	SVS (Synthetic Vision Systems)	Y	Y	§ 27/29.1301, § 27/29.1303, § 27/29.1309, § 27/29.1321, § 27/29.1322, § 27/29.1329, § 27/29.1331, § 27/29.1333, § 27/29.1335, § 27/29.1431, § 27/29.1501, § 27/29.1524, § 27/29.1529, § 27/29.1581 § 27/29.,1585	Synthetic Vision Systems (SVS) 1) on Head Up Display or 2) on Head Down Display.	Given the importance of the subject for the overall safety level of rotorcraft, the certification requirements and the related means of compliance need to be agreed with EASA. This item qualifies as SEI: • for Head Down display, only when operational credit is sought, or • for Head Up display, in any case.	N	Y	N	N	N
# 06-07	EASA specific Certification Specifications	Y	Y	CS ACNS and various AMC 20	Compliance with EASA specific standards for operational capabilities.	When an applicant elects to comply with these standards for operational credit, EASA will not retain this as SEI. Compliance verification is delegated to the FAA provided that no deviations / exemptions and equivalences to the standards are granted by the FAA without EASA involvement.	Y	N	N	N	N
# 06-08	Active Lasers	Y	Y	§ 27/29.1301 § 27/29.1309 § 27/29.1529 § 27/29.1581	Active lasers approval is not based on the same regulatory systems.	Given the differences in the regulatory systems, approval for active lasers is retained as SEI. Applicable references in EASA: • CM-AS-006 on high energy lasers	N	Y	N	N	N
# 06-09	Cybersecurity	Y	Y	§ 27/29.1319 § 27 Appendix A27.5 § 29 Appendix A29.5	Equipment, systems and network information security protection.	Given the importance of the subject for the overall safety level of rotorcraft, the differences in the regulatory systems and the novelty of the requirement, verification of compliance is retained by EASA. Applicable references in EASA: • CS-27 Amdt 7 on • CS-29 Amdt 8 on	Y	N	Y	N	N
# 06-10	Lightweight flight recorder	Y	N	§ 27.1458	Lightweight flight recorder	CS-27 Amdt 10 includes the new CS 27.1458 requirement for the certification of lightweight flight recorders. Should credit be sought for operations under CAT.IDE.H.191 or SPO.IDE.H.146, compliance with CS 27.1458 should be demonstrated. FAA Title 14 Part 27 does NOT include this requirement.	Y	N	N	N	N
Powerplant											
# 07-01	Fuel Tank Drop-test	Y	Y	§ 27/29.952	Impact of surrounding structures on fuel tank and use of simulation tool.	Hypotheses for surrounding structures, test condition of external components and use of simulation tool are not harmonized. Given the importance of the subject for the overall safety level of rotorcraft, the means of compliance need to be agreed with EASA.	N	Y	N	N	Y

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								(1)	(2)	(3)	(4)
# 07-02	[reserved]										
# 07-03	Flammable fluid risk in unpressurized areas/non cabin areas	Y	Y	§ 27/29.863 § 27/29.1309	Flammable fluid fire protection for areas of the rotorcraft subject to leakage of any flammable fluid.	EASA has developed Interpretive Material addressing "Flammable Fluid Risk in unpressurized areas" to provide supplementary guidance to the FAA AC and minimize past inconsistencies. Given the importance of the subject for the overall safety level of rotorcraft, the means of compliance need to be agreed with EASA. This item qualifies as SEI for new TCs, derivative models and changes significantly affecting the design assumptions for initial certification.	N	Y	N	N	N
# 07-04	Water / Ice in fuel	Y	Y	§ 27/29.951(c)	Water / Ice in fuel.	Interpretation is not harmonized. Acceptable means of compliance require system level testing rather than component level and are reviewed by EASA as part of test plan acceptability. Given the importance of the subject for the overall safety level of rotorcraft, the means of compliance need to be agreed with EASA. This item qualifies as SEI for new TCs, derivative models and changes significantly affecting the initial design (including STC such as installation of auxiliary tanks).	N	Y	N	N	Y
# 07-05	Oil pressure indicator and warning	N	Y	§ 29.1305 (b)(1)	Engine oil pressure warning requirement for CAT A	As no dedicated guidance is available, EASA has developed and published the Certification Memorandum CM-PIFS-004 providing guidance for compliance demonstration. CS 29.1305(b)(1) has been revised at Amdt. 11 to include the consolidated interpretation on the independence of engine oil pressure indication and low engine oil pressure warning. This item qualifies as SEI for new TCs, derivative models and changes significantly affecting the initial design architecture. Applicable references for EASA: • CM-PIFS-004 on Oil Low Pressure Warning	N	Y	N	N	N
# 07-06	[reserved]										
# 07-07	Unusable fuel	Y	Y	§ 27/29.959 AMC1 27.959 / AMC1 29.959	Ground testing capability of simulating the flight testing environment (pressure, venting, vibrations, acceleration / deceleration, …)	Experience has shown that interpretation of acceptable means of compliance is not harmonized. EASA has developed additional AMC on "Unusable Fuel Supply" which provides guidance when using ground or laboratory testing for compliance demonstration. Given the importance of the subject for the overall safety level of rotorcraft, the means of compliance need to be agreed with EASA.	N	Y	N	N	N

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								(1)	(2)	(3)	(4)
# 07-08	Fuel tank safety	N	Y	§ 29.954 § 29.963(d)	Fuel tank explosion risk.	Accidents involving different categories of products (helicopters and fixed wing aircraft) have prompted concerns, leading EASA to consider that the ignition risk within the fuel system must be systematically assessed. EASA has developed additional interpretative material related to “Fuel Tank Safety”. Given the importance of the subject for the overall safety level of rotorcraft, the means of compliance need to be agreed with EASA. This item qualifies as SEI for new TCs, derivative models, changes significantly affecting the initial design architecture and introducing threats on the overall risk of fuel tank explosion. Applicable references for EASA: • Generic CRI	N	Y	N	N	Y
# 07-09	Fuel Specification	Y	Y	§ 27/29.901(b)(1) § 27/29.1521(d) § 27/29.1557(c) § 27/29.1583(b)(1)	The list of fuel and fuel additive specifications is an airworthiness limitation that needs to be recorded accordingly.	Adverse in-service experience on large aircraft initially prompted the release of Certification Memorandum (CM) No. EASA CM-PIFS-009 on Fuel Specification Changes. In-service occurrences associated with fuel and fuel additives use have been also reported on helicopters. Given the importance of the subject for the overall safety level of rotorcraft, the means of compliance need to be agreed with EASA. This item is qualified SEI for new fuel types and/or additives approval. Applicable references for EASA: • CM-PIFS-009 on Fuel Specification Changes	N	Y	N	N	Y
# 07-10	APU Mode	N	Y	§ 29.361 § 29.571 § 29.601	Engine performing APU Mode function on ground.	No guidance material is currently available for engine performing APU function on ground. EASA has developed additional Interpretive Material "APU Mode" for use of engine in APU mode. Given the importance of the subject for the overall safety level of rotorcraft, the means of compliance need to be agreed with EASA. Applicable references for EASA: • Generic CRI	N	Y	N	N	N
# 07-11	Interfaces between engine and rotorcraft	Y	Y	§ 27/29.901 § 27/29.1309	Engine Electronic Control system integration	EASA has published the acceptable means of compliance AMC20-1 “Interfaces between engine and rotorcraft" to address the lack of advisory material addressing the interfaces between engine and airframe certifications. Given the importance of the subject for the overall safety level of rotorcraft, the means of compliance need to be agreed with EASA. This item qualifies as SEI for new engine type/model installation or changes affecting the aircraft hosted functions (e.g. changes affecting OEI ratings, changes affecting cockpit indications, inhibition logics, time limited dispatch, etc.). Applicable references for EASA: • AMC 20-1 on Interfaces between engine and rotorcraft • Generic CRI	N	Y	N	N	N

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								(1)	(2)	(3)	(4)
# 07-12	Material Fireproofness	Y	Y	§ 27/29.859, § 27/29.861, § 27/29.863, § 27/29.903, § 27/29.1013, § 27/29.1025, § 27/29.1103, § 27/29.1121, § 27/29.1165, § 27/29.1181, § 27/29.1183, § 27/29.1185, § 27/29.1189, § 27/29.1191, § 27/29.1193, § 27/29.1194, § 27/29.1201, § 27/29.1203, § 27/29.1359, § 27/29.1433, § 27/29.1435	Material Fireproofness / Fire Resistance Compliance Demonstration (load levels, fire assumptions, …)	EASA has developed additional Interpretative Material regarding "Material Fireproofness / Fire Resistance Compliance Demonstration" addressing evaluation of material properties when demonstrating fireproofness / fire resistance for structural parts. Given the importance of the subject for the overall safety level of rotorcraft, the means of compliance need to be agreed with EASA. This item qualifies as SEI for new TCs, derivative models, changes significantly affecting the surrounding structure or part of the designated fire zone. Applicable references for EASA: • Generic CRI	N	Y	N	N	N
# 07-13	Inlet Barrier Filter	Y	Y	§ 27/29.901 § 27/29.1301 § 27/29.1093(b)(1)(i),(2)	Certification of IBF installations on rotorcraft.	No guidance is currently available in AC27 and AC29. EASA has developed interpretative material. Given the importance of the subject for the overall safety level of rotorcraft, the means of compliance need to be agreed with EASA. This item qualifies as SEI for new IBF installations, changes significantly affecting the IBF design or surrounding changes which might affect the engine air supply. Applicable references for EASA: • Generic CRI	N	Y	N	N	N
# 07-14	[reserved]										
Snow and Icing											
# 08-01	Turbine Engine induction system icing.	Y	Y	§ 27/29.1093(b)(1)(i)	Performance based requirement to demonstrate that there is no engine operation penalty, if the engine is operated with its installation in: • Icing conditions as defined in CS 29 The paragraph is to be complied with either when rotorcraft is to be cleared for flying in known icing conditions or inadvertent icing encounter only.	Concerning compliance with 27/29.1093(b)(1)(i), EASA considers the FAA AC as an acceptable means of compliance. However, the level of details provided by AC material is in many parts insufficient to clearly determine compliance methodology. The following items are examples of aspects not sufficiently addressed in the AC and requiring agreement by EASA: • Critical points analysis of the icing conditions in combination with the engine power. • Engine Power requested for testing and ice shedding demonstration. • Criteria for steady state determination and test termination in case of "full icing approval" is not established. Screened air intake configurations as passive protection also deserve specific analysis, since experience has shown that they may be ineffective around the freezing point.	N	Y	N	N	N

ID	Subject	Part 27	Part 29	Affected paragraphs	Description	EASA position	SSD	Safety Emphasis Item (SEI)			
								(1)	(2)	(3)	(4)
						Applicable references for EASA: • AMC1 27/29.1093(b)(1)(i) addressing the specificity of the screened air intake configurations. • Special Condition for Essential APU induction system • In case of IBF installation, a Generic CRI (IM/AMC) is systematically raised in order to assess performance under icing conditions.					
# 08-02	Turbine Engine induction system under freezing fog.	Y	Y	§ 27/29.1093(b)(2)	Performance based requirement to demonstrate that there is no engine operation penalty, if the engine is operated with its installation in: • Freezing fog conditions as defined in the regulation text. The paragraph is to be complied with either when rotorcraft is to be cleared for flying in known icing conditions or inadvertent icing encounter only.	Freezing fog conditions as tested according to the rule might not anticipate all possible operating conditions in terms of temperature and exposure time. IBF on engine induction systems and Essential APU are also expected to comply with this requirement and the related limitations to be published in the RFM. Unusual operations of the engine on ground, e.g “APU mode”, are currently not addressed by the rule, but they are not exempted from this requirement. Given the importance of the subject for the overall safety level of rotorcraft, the means of compliance need to be agreed with EASA. Applicable references for EASA: • Special Condition for Essential APU induction system • In case of IBF installation, a Generic CRI (IM/AMC) is systematically raised in order to assess performance under icing conditions.	N	Y	N	N	N
# 08-03	Turbine Engine induction system under snow.	Y	Y	§ 27/29.1093(b)(1)(ii)	Performance based requirement to demonstrate that there is no engine operation penalty, if the engine is operated with its installation • Under snow conditions. Flight clearance under snow conditions may be optional. RFM shall include specific limitation to prevent operation in snow conditions when not demonstrated.	According to FAA AC material, the approval of helicopter operations under falling and blowing snow requests flight test in the snow environment, whose acceptability is strictly based on visibility criteria (affected by snowfall only), which in turns correlates to a snow concentration target. This is an activity which normally deserves engineering judgement since the criteria are based on subjective parameters. Based on recent experience, EASA would foster and consider in a positive way the proposal from applicant to use more objective means to determine snow concentration during flight test activities. Given the importance of the subject for the overall safety level of rotorcraft, the means of compliance need to be agreed with EASA. Applicable references for EASA: • Special Condition for Essential APU induction system • In case of IBF installation, a Generic CRI (IM/AMC) is systematically raised in order to assess performance under snow if such approval is requested.	N	Y	N	N	N

ID	Subject	Part 27	Part 29	Affected paragraphs	Description	EASA position	SSD	Safety Emphasis Item (SEI)			
								(1)	(2)	(3)	(4)
# 08-04	Icing qualification of external probes for airspeed indicating system Part 27 rotorcraft	Y	N	§ 27 Appendix B (IFR operation) – Section (b) - Miscellaneous requirements § 27.1301 § 27.1309(a)	Need to address minimum icing qualification level for a heated pitot tube. Although Part 27 does not have a requirement similar to 29.1323(f), when operated under IFR, Part 27 rotorcraft have similar obligations through Part 27 Appendix B.	FAA AC 27.1323 states that "..pitot tube qualified to this TSO (i.e. the TSO C16 – Airspeed tube (Heated)) normally allow for a satisfactory aircraft installation". However, Part 27 is not that clear in establishing when a heated pitot tube is needed, when not flying under IFR. For rotorcraft with IFR / known icing conditions approval, EASA expectation is that the installed Pitot tubes are qualified according to ETSO/TSO C16 (or later release or other similar standards). For other kind of operations (e.g. VFR only, night, snow clearance,…) requiring the installation of heated pitot tubes, the icing qualification could be commensurate to the intended kind of operation. Given the importance of the subject for the overall safety level of rotorcraft, the means of compliance need to be agreed with EASA. This item qualifies as SEI for new TCs, derivative models or changes significantly affecting the external probe icing qualification (e.g. from unheated to heated pitot). Applicable references for EASA: • If not already documented by the CA, a means of compliance CRI will be raised to clarify the applicable icing qualification level when the applicant proposes deviations from the acceptable standards (e.g. ETSO/TSO C16 or similar).	N	Y	N	N	N
# 08-05	Icing qualification of external probes for airspeed indicating system Part 29 rotorcraft	N	Y	§ 29.1323(f)	Performance based requirement, which prescribes that the indicated speed is not affected by icing. This airworthiness requirement applies to Part 29 rotorcraft whatever is the sought approval (VFR, IFR, flight into know icing conditions).	FAA AC 29.1323 states that "..pitot tube qualified to this TSO (i.e. the TSO C16 – Airspeed tube (Heated)) normally allow for a satisfactory aircraft installation". EASA considers that, if the pitot tubes are qualified according to ETSO/TSO C16 or later release, pitot heaters are adequately qualified and no further involvement is deemed necessary. Any deviation from the methodology described in the acceptable standard shall warrant EASA involvement. Certificating Authority shall notify EASA about any deviation from ETSO/TSO C16 qualification level and provide the referenced papers (IP, CAI,…) Therefore, this item qualifies as SEI only if current guidance is not followed.	N	Y	N	N	N
# 08-06	Icing qualification of external probes for static pressure systems.	Y	Y	§ 27.1325(b) and § 29.1325(c)	Performance based requirements, which prescribe that the static pressure is not affected by icing. An alternate static pressure source not affected by icing is an alternative to the main pressure port ice protection.	The applicant may comply with these requirements by providing an effective alternate static pressure source unaffected by icing. Otherwise, these requirements impose anti-icing means whatever approval is sought (even for VFR day/night). The verification of the adequacy of static port ice protection is subject to different interpretations. FAA AC 27/29.1325 material permits some flexibility in showing compliance with these requirements even if, in case of heated ports, ETSO/TSO C16 qualification standard (including icing) is recommended.	N	Y	N	N	N

ID	Subject	Part 27	Part 29	Affected paragraphs	Description	EASA position	SSD	Safety Emphasis Item (SEI)			
								(1)	(2)	(3)	(4)
						EASA would consider adequate to the rule having a combined pitot-static probe (normally used for Part 29 rotorcraft category) meeting the qualification standards of ETSO/TSO C16 or later release. In such case no further investigation is deemed necessary. FAA AC material also mentions the case of unheated static ports, where alternative to testing might be acceptable. At the same time, it is not clarified when and at which extent these compliance methodologies are acceptable. Considering the lack of detailed guidance, the possibility of different design solutions and given the importance of the subject for the overall safety level of rotorcraft, the means of compliance need to be agreed with EASA. Therefore, this item qualifies as SEI for new TCs, derivative models or changes significantly affecting the external probe design.					
# 08-07	Ice Protection	Y	Y	§ 27/29.1419	Performance based requirements to demonstrate that the rotorcraft may safely fly in known icing conditions as identified in Part 29 Appendix C within its flight envelope.	EASA recognises FAA AC as applicable to CS 27/29. However, the guidance material in FAA AC 27/29.1419 is dated and currently under revision. Considering the lack of detailed and updated guidance and given the importance of the subject for the overall safety level of rotorcraft, the means of compliance need to be agreed with EASA. Whether the applicant wishes to achieve the so-called “limited icing” approval, being it unique to EASA certification, it shall, of course, deserve adequate and extensive discussion with EASA. Applicable references for EASA: • Special Condition for “Limited icing” concept approval.	N	Y	N	N	N
Air Bleed Systems / Oxygen Systems											
# 08a-01	Air bleed duct leakage assessment.	Y	Y	§ 27/29.1301(a)-(d), § 27/29.1309(a), § 27/29.863	EASA requests that the air bleed leakage is detected and mitigation measures are in place in order not to create hazards to the surrounding structure / systems.	It is EASA expectation that the leakage of bleed ducts shall be assessed independently on the failure probability resulting from the design safety assessment. A detection system, which promptly detects leakage and permits to isolate it in order to minimize the hazard to exposed surrounding structure and systems, is deemed an adequate means to make the air bleed system compliant with the listed ancillary requirements. Given the importance of the subject for the overall safety level of rotorcraft, the means of compliance need to be agreed with EASA. This item qualifies as SEI for new TCs, derivative models or changes significantly affecting the air bleed system.	N	Y	N	N	N

ID	Subject	Part 27	Part 29	Affected paragraphs	Description	EASA position	SSD	Safety Emphasis Item (SEI)			
								(1)	(2)	(3)	(4)
# 08a-02	Fire hazard assessment for oxygen system installation.	Y	Y	§ 27/29.863 and § 27/29.1309 (No specific oxygen-related requirements in Part 27/29).	Fire hazard assessment for oxygen system installation requires additional guidance not available in the current AC material.	Although FAA AC 27/29 MG 6 is applicable, the way this guidance material addresses the fire risk originating from oxygen system installation is still deemed insufficient by EASA. Stemming from experience logged on large airplanes, EASA has developed a generic CRI tailored to rotorcraft EMS cabin configurations, providing additional guidance. In particular, the generic CRI requests a specific Oxygen Hazard Analysis in order to check the compatibility of the used materials with oxygen itself under normal and failure conditions. Given the importance of the subject for the overall safety level of rotorcraft, the means of compliance need to be agreed with EASA. This item qualifies as SEI only for major EMS cabin configurations featured with a medical oxygen system or changes significantly affecting the fire hazard assessment (e.g. new pressure regulator …). Applicable references for EASA: • Generic CRI for oxygen system installed in emergency medical service cabin configuration. • Also, a CM on acceptable oxygen cylinders to be installed on board aircraft is about to be published. The CM indicates the acceptable standards for the metallic and composite cylinders to be installed on-board or as portable equipment.	N	Y	N	N	N
Software, Airborne Electronic Hardware (AEH) and System Development Assurance											
#10-01	Management of Open Problem Reports	Y	Y	MoC to § 27/29.1309	Open Problem Report management guidance is needed if an applicant or any of their suppliers intends to defer the resolution and correction of AEH or Software problems post the date of certification. This subject qualifies as SEI when insufficient guidance is applied to a project. Note: this SEI addresses only the process aspects of OPR management aspect and does not imply a specific involvement in the review of OPRs for specific systems of the product.	A means of compliance CRI may be needed when AC 20-189 / AMC 20-189 is not applied. Note: SEI not applicable for validation of FAA approved products when AC 20-189, or equivalent guidance, has been applied to the project. Applicable references for EASA: • AMC 20-189	N	Y	Y	N	N

ID	Subject	Part 27	Part 29	Affected paragraphs	Description	EASA position	SSD	Safety Emphasis Item (SEI)			
								(1)	(2)	(3)	(4)
#10-02	Use of Multicore Processors	Y	Y	MoC to § 27/29.1309	Additional guidance on use of Multi-Core Processors is needed for new or modified airborne systems containing Multicore Processors devices, hosting Software components on different cores. This subject qualifies as SEI when insufficient guidance is applied to a project.	Multi-Core processors include features that may impact the behaviour, and therefore the safety, of a system if not well managed. A means of compliance CRI may be needed for new or modified airborne systems containing Multicore Processors devices, hosting Software components on different cores, when AC 20-193 / AMC 20-193 is not applied or the guidance offered by AC/AMC is insufficient (e.g. dynamic allocation). Note: SEI is applicable: • When AC 20-193, or equivalent guidance, is not applied; • or when the type of MCP usage is not covered by the AMC 20-193. Applicable references for EASA: AMC 20-193	N	Y	Y	N	N
#10-03	Software Development Assurance Guidance	Y	Y	MoC to § 27/29.1309	Additional guidance is needed for the development of new or modified airborne systems / equipment containing Software, when harmonized FAA / EASA guidance has not been applied. This subject qualifies as SEI when insufficient guidance is applied to a project.	A means of compliance CRI may be needed for new or modified airborne systems / equipment containing Software, when insufficient Software development assurance guidance has been applied to a project. Note: SEI not applicable: • when AC 20-115D has been applied, • or when DO-178C has been applied, • or when DO-178B has been applied with use of Software techniques (MBD, OOT, FM, CF/PDI, Pseudocode) for which specific previously accepted guidance has been applied. Note: This option is not acceptable to EASA for newly developed Software. • or when DO-178B has been applied without use of specific Software techniques (MBD, OOT, FM, CF/PDI, Pseudocode). Applicable references for EASA: • AMC 20-115D.	N	Y	Y	N	N
#10-04	Hardware Development Assurance Guidance	Y	Y	MoC to § 27/29.1309	Guidance is needed for the development of new or modified airborne systems / equipment containing custom devices, COTS IPs, and complex COTS devices. This subject qualifies as SEI when insufficient guidance is applied to a project.	A means of compliance CRI may be needed for new or modified airborne systems / equipment implementing custom devices (PLD, FPGA, ASIC), COTS IP, or complex COTS devices,. Note: except for use of COTS IPs in custom devices with iDAL A or B, SEI is not applicable when AC 20-152A, or acceptable equivalent guidance, is applied. Note: the use of equivalent guidance is not acceptable to EASA for newly developed Hardware. Applicable references for EASA: • AMC 20-152A	N	Y	Y	N	N
#10-05	[reserved]										

ID	Subject	Part 27	Part 29	Affected paragraphs	Description	EASA position	SSD	Safety Emphasis Item (SEI)			
								(1)	(2)	(3)	(4)
#10-06	[reserved]										
#10-07	Artificial Intelligence and Machine Learning	Y	Y	MoC to § 27/29.1309	The use of Artificial Intelligence / Machine Learning requires specific guidance that is not available in current material.	The use of Machine Learning creates certification challenges and Development Assurance considerations. These types of systems may not be fully specified or even be non-deterministic, and thus, may not be able to satisfy all development assurance process objectives. Traditional Development Assurance methodologies are not adapted to the challenges raised by the verification of adaptive / intelligent systems and by the learning aspects of this new technology. To date, guidance does not exist.	N	Y	N	N	N
#10-08	MBD for Hardware Development	Y	Y	MoC to § 27/29.1309	The use of Model Based Development (MBD) within the development process of custom devices requires specific guidance that is not available in current material.	MBD for hardware is a new development technique with limited experience in the Hardware industry. The requirements capture and the development of the model, associated with the usage of tools to generate detailed design, have a potential impact on the overall safety of the aircraft. To date, guidance does not exist.	N	Y	N	N	N
#10-09	Development Assurance Process based on Eurocae ED-79A / SAE ARP4754A objectives	Y	Y	MoC to § 27/29.1309	Legacy methods of demonstrating compliance to EASA CS 29.1309 using development assurance techniques at the software and airborne electronic hardware levels do not adequately support the complexity of system integration, nor do they adequately address potential errors in the development of requirements for standalone systems that may incorporate software and complex electronic hardware. For this reason, additional methods to reduce and mitigate requirement errors in the aircraft / system development process in line with the objectives of Eurocae ED-79A / SAE ARP4754A, "Guidelines for Development of Civil Aircraft and Systems" have been developed.	Experience has shown that differences may arise between certificating authorities (and applicants) in the interpretation and implementation of Eurocae ED-79A / SAE ARP4754A, possibly resulting in non-consistent approaches when assessing the applicant's development assurance processes. This may have an important impact on the whole product safety and on critical systems development. EASA retains verification of compliance demonstration with this requirement for new type certifications, derivative models or major significant changes. The scope of EASA investigation will be limited to systems developed using Eurocae ED-79A / SAE ARP4754A in support to CS-27/29.1309 compliance demonstration. A CRI IM may be needed to define the scope of application of development assurance activities in line with guidelines contained in Eurocae ED-79A / SAE ARP4754A, as a means of compliance with CS-27/29.1309.	N	Y	Y	N	N

ID	Subject	Part 27	Part 29	Affected paragraphs	Description	EASA position	SSD	Safety Emphasis Item (SEI)			
								(1)	(2)	(3)	(4)
Cabin Safety and Cabin Crew											
#11-01	Cargo / baggage compartment fire protection.	N	Y	§ 29.855(a)(2),(c) and (d)	The intent of 29.855 (a)(2), (c) and (d) is open to several interpretations. Available guidance is insufficient to address all of them.	Concepts for accessible compartments, e.g. the interpretation of "accessible" and "easily accessible", the bounds of acceptability for crew to directly detect smoke at their station vs the need to keep smoke away from occupants, and the substantiation of RFM procedures intended to achieve ".. contain compartment fires until a landing and safe evacuation can be made" have led to extensive discussions with applicants. Given the importance of the subject for the overall safety level of rotorcraft, the means of compliance need to be agreed with EASA.	N	Y	N	N	N
#11-02	Helicopter resting on its side	N	Y	§ 29.807 (c)	The rule gives the possibility to claim that rollover is “extremely remote”. However, no guidance is given for substantiating such a claim.	Considering the lack of guidance and given the importance of the subject for the overall safety level of rotorcraft, the means of compliance need to be agreed with EASA should the "extremely remote" route be chosen.	N	Y	N	N	N
Safety Assessment											
#12-01	[reserved]										
#12-02a	Aircraft and System Safety Assessment - **Safety Objectives**	Y	N	§ 27.1309 (b)	**Case 1:** The validated product took credit from the FAA Safety Continuum Policy Statement **PS-ASW-27-15** “Part 27 Normal Category Rotorcraft Systems and Equipment”. This Policy Statement lays out the regulatory basis for the installation and approval of systems and equipment on normal category rotorcraft and defines classes for rotorcraft.	The SEI will depend on the actual Safety Objectives used for the certification of the validated product. For Case 1, there are differences between the FAA PS-ASW-27-15 and the EASA AMC 27.1309 in terms of definition of rotorcraft classes and associated objectives. For instance: • a rotorcraft that is intended to operate under IFR, will need to be certified as a minimum as Class II as per AMC 27.1309. • For Class III rotorcraft, the FAA PS-ASW-27-15 consider that the Safety objective for CAT “can be met by a dual system of sufficient robustness, reliability, and independence” as an alternative method to <10-8 FDAL-B. This item qualifies as SEI when the above conditions are met.	N	Y	N	N	N
#12-02b	Aircraft and System Safety Assessment - **Safety Objectives**	Y	Y	§ 27 / 29.1309 (b)	**Case 2:** The validated product took credit from the Advisory Circular (**AC**) **27-1B** / **29-2C.**	The SEI will depend on the actual Safety Objectives used for the certification of the validated product. There are several cases: In general, FAA AC 27-1B / 29-2C are recognized by EASA as providing acceptable means of compliances, though with some deviations as specified in AMC 27 / 29 respectively. Use of **MG 21** to create a system level Functional Hazard Assessment is not considered by EASA an acceptable means of compliance. This item qualifies as SEI when MG 21 is applied.	N	Y	N	N	N

ID	Subject	Part 27	Part 29	Affected paragraphs	Description	EASA position	SSD	Safety Emphasis Item (SEI)			
								(1)	(2)	(3)	(4)
#12-02c	Aircraft and System Safety Assessment - **Safety Objectives**	N	Y	§ 29.1309 (b)(2)	EASA requires that equipment and systems considered separately and in relation to other systems, must be designed and installed such that **each hazardous failure condition is extremely remote**.	This requirement was removed from 14 CFR 29.1309 and replaced by “(b)(3) For the occurrence of any other failure condition in between major and catastrophic, the probability of the failure condition must be inversely proportional to its consequences.” EASA considers that these requirements are not equivalent. This item qualifies as SEI when the above conditions are met.	Y	N	N	N	N
#12-03	Aircraft and System Safety Assessment - **NORSEE**	Y	Y	§ 27.1309 § 29.1309	**Policy Statement PS-ASW-27,29-10** concerning Non-Required Safety Enhancing Equipment (NORSEE) in Rotorcraft This policy provides certification guidance for applications to install Non-required safety enhancing equipment into rotorcraft.	EASA has not recognized this Policy Statement and does not have equivalent policies or guidance in place granting the same alleviations. See item #12-02a for proportionality approach when net safety benefit is claimed.	N	Y	N	N	N
#12-04	Aircraft and System Safety Assessment - **NORSEE**	Y	Y	§ 27.1309 § 29.1309	**Policy Statement PS-AIR-21.8-1602** concerning Non-Required Safety Enhancing Equipment (NORSEE) in Rotorcraft This policy provides certification guidance for applications to install Non-required safety enhancing equipment into rotorcraft.	EASA has not recognized this Policy Statement and does not have equivalent policies or guidance in place granting the same alleviations. See item #12-02a for proportionality approach when net safety benefit is claimed.	N	Y	N	N	N

ID	Subject	Part 27	Part 29	Affected paragraphs	Description	EASA position	SSD	Safety Emphasis Item (SEI)			
								(1)	(2)	(3)	(4)
Drive System											

#13-01	Bearing assessment and qualification	N	Y	§ 29.547(b),
				§ 29.602,
				§ 29.917(b),
				§ 29.923,
				§ 29.927
					Definition of some specific aspects of the design, production and compliance demonstration of rolling element bearing, which are not currently adequately covered by AC 29.571 and 29.917.	Current AC does not adequately address certification of rolling element bearings with critical functions. Aspects to be addressed include:
						• Designs assessments from § 29.547(b) and §29.917(b):
						  ○ Failure modes and mechanisms.
						  ○ Adequacy and sufficiency of compensating provisions including:
						  ▪ means of monitoring,
						  ▪ inspections means and intervals,
						  ▪ replacement time,
						  ▪ design criteria.
						• § 29.602:
						  ○ Identification of critical characteristics.
						  ○ Production and quality controls.
						• § 29.923, § 29.927(b), (c) and (d):
						  ○ Qualification of bearings with more than one supplier.
						• § 29.927(a), additional tests for:
						  ○ Reliability considerations.
						  ○ Detailed evaluation of capability to operate without hazard of failure from excessive wear or deterioration.
						Given the importance of the subject for the overall safety level of rotorcraft, the means of compliance need to be agreed with EASA.
						This item qualifies as SEI for new TCs and changes significantly impacting rolling element bearings, for which the failure has been classified Catastrophic. In addition, this SEI also applies for the introduction of hybrid bearings (i.e. featuring ceramic rolling elements) within the main elements of the rotor and/or rotor drive systems.
							N	Y	N	N	Y

#13-02a	Representativeness of endurance tests	N	Y	§ 29.923	Rotor drive system and control mechanism test. To cover use of alternative test means replacing the complete rotorcraft, as prescribed by CS 29.923(a)(2).	EASA considers that alternative endurance test means such as iron birds and rig tests may be used. These alternative test means should be adequately demonstrated not to impact the test results to substantiate an Equivalent Level of Safety to CS 29.923(a)(2) and CS 29.923(a)(3)(ii).	N	Y	N	N	N
#13-02b	Endurance test - Additional ratings/ capabilities	Y	Y	§ 27/29.923 and § 27/29.927	Rotor drive system and control mechanism test. To cover intended uses of the rotor drive system not addressed by the current requirements and guidance material.	Current CSs / ACs do not address all intended uses and their potential effects on rotor drive system and rotating controls (e.g. TOP duration beyond 5 minutes, variable NR, operation in APU mode, etc). A Special condition has been developed and published by EASA addressing 30-minute power ratings, which is now part of AMC in CS-27/29. In addition, AMC for CS-27/29 has been published addressing the use of variable NR. For any other applications, the applicant should contact EASA to ensure adequate requirements and means of compliance are identified. Applicable references for EASA: • AMC1 27/29.923, AMC1 27/29.927	N	Y	N	N	N

ID	Subject	Part 27	Part 29	Affected paragraphs	Description	EASA position	SSD	Safety Emphasis Item (SEI)			
								(1)	(2)	(3)	(4)
#13-03a	Performance of monitoring means	Y	Y	§ 29.547(b), and § 29.917(b)	The intent is to address the performance and reliability of monitoring means used as compensating provisions in the design assessment.	There is no guidance material addressing the performance of monitoring means used as compensating provisions for rotor and rotor drive systems. Given the importance of the subject for the overall safety level of rotorcraft, the means of compliance need to be agreed with EASA. This item qualifies as SEI for new gearbox design and changes to monitoring means which could degrade its effectiveness.	N	Y	N	N	Y
#13-03b	Chip Detection System (from CS 27/29 Amdt. 9 on)	Y	Y	§ 27/29.1337 (e)	The intent of this requirement is to address the demonstration of performance of the chip detection system.	CS 27 and CS29 have been revised (at Amdt 9 and 10 respectively) to request demonstration of the effectiveness of the chip detection system in indicating the presence of ferromagnetic particles resulting from damage or excessive wear within the transmission or gearbox. Given the importance of the subject for the overall safety level of rotorcraft and the novelty of the requirement, verification of compliance is retained by EASA. This item qualifies as SEI for new gearbox design and any change of the gearbox and/or its chip detection system significantly affecting its performance.	Y	Y	Y	Y	Y
#13-04	[reserved]										
#13-05a	Loss of Lubrication (up to CS 29 Amdt. 4)	Y Cat A only	Y	§ 29.917, § 29.927(c), § 29.1521	Special Condition addressing loss of lubrication requirements.	EASA has developed and published a Special Condition addressing loss of lubrication requirements in order to ensure that the design assessment required by 29.917(b) includes the lubrication system as part of the rotor drive system. The Special Condition also identifies testing necessary to establish confidence in continued operation following loss of oil for a period of at least 30 minutes and requests that limitations related to loss of lubrication are referred to in the operating procedures. This item qualifies as SEI for new gearbox design and gearbox changes, which might affect the loss of lubrication capabilities. Applicable references for EASA: • Special Condition	N	Y	N	N	Y

ID	Subject	Part 27	Part 29	Affected paragraphs	Description	EASA position	SSD	Safety Emphasis Item (SEI)			
								(1)	(2)	(3)	(4)
#13-05b	Loss of Lubrication (from CS 29 Amdt. 5 on)	Y Cat A only	Y	§ 29.917 (a)(b), § 29.927(c), § 29.1585 (h)	Loss of lubrication: demonstration of capability.	CS29 has been revised at Amdt. 5 to request that the lubrication system be included in the design assessment and to establish confidence in that the rotor drive system of a Category A rotorcraft has an in-flight operational endurance capability of at least 30 minutes following a failure of any one pressurised normal-use lubrication system. Furthermore, EASA expects that the maximum duration of operation after a failure resulting in a loss of lubrication of a rotor drive system gearbox and an associated oil pressure warning be furnished as part of the operating procedures. Given the importance of the subject for the overall safety level of rotorcraft and the novelty of the requirement, verification of compliance is retained by EASA. This item qualifies as SEI for new gearbox design and gearbox changes, which might affect the loss of lubrication capabilities.	Y	Y	Y	N	Y
#13-06	TBOs.	Y	Y	§ 27/29.1529	Provide guidance for development of Time Between Overhaul (TBO) periods for rotorcraft gearboxes.	Given the importance of the subject for the overall safety level of rotorcraft, the means of compliance need to be agreed with EASA. This item qualifies as SEI for new gearbox design and gearbox changes which significantly affect gearbox reliability. Applicable references for EASA: • AMC1 27/29.1529.	N	Y	N	N	N
#13-07	Processes & Continued airworthiness	Y	Y	§ 27/29.602	Post Certification actions to verify the continued integrity of safety critical parts.	EASA has developed a Certification Memorandum detailing the need for post certification actions to verify the continued integrity of Critical Parts. These actions should ensure that critical parts are controlled throughout their service life in order to maintain the critical characteristics on which certification is based. In addition, it should be assessed the effectiveness of any associated design, maintenance and monitoring provisions, which either help to ensure the continued integrity or provide advanced indications of impending failures of critical parts. Given the importance of the subject for the overall safety level of rotorcraft, the means of compliance need to be agreed with EASA. This item qualifies as SEI for new TCs, derivative models and STCs affecting critical parts (including PMA). Applicable references for EASA: • CM-S-007 on Post Certification actions.	N	Y	N	Y	Y

ID	Subject	Part 27	Part 29	Affected paragraphs	Description	EASA position	SSD	Safety Emphasis Item (SEI)			
								(1)	(2)	(3)	(4)
#13-08a	Vibration Health Monitoring (VHM) System – Applications for Credit	N	Y	§ 29.547(b) § 29.571 § 29.917(b) § 29.1465 § 29.1529	Use of VHM systems fulfilling an airworthiness function.	This item qualifies as an SEI when an applicant seeks approval for a VHM system with airworthiness related purposes (i.e. VHM application for credit), including but not limited to means: • to minimise the likelihood of occurrence of hazardous or catastrophic failures in the design assessments of CS 29.547(b) and/or CS 29.917(b) • in support of airworthiness decisions by assisting or replacing maintenance or flight procedures • used as ”approved equivalent means”, in accordance with CS 29.571/573. Applicable references for EASA: • NPA-2022-03 on “Reduction in accidents caused by failures of critical rotor and rotor drive components through improved vibration health monitoring systems”.	Y	Y	Y	N	N
#13-08b	Vibration Health Monitoring (VHM) System	N	Y	§ 29.1465	EASA requirement providing means for certifying VHM system.	This item qualifies as SEI when an applicant elects to comply with CS 29.1465 for a VHM system on a voluntary basis or in support of compliance with operational regulation Reg. (EU) 965/2012.	Y	N	Y	N	N
Miscellaneous											
#14-01	Emergency flotation system (up to CS 27/29 Amdt. 4)	Y	Y	MG 10	The choice of appropriate means of compliance with MG10 is prone to different interpretations.	Experience has shown that different interpretations have been proposed for showing compliance with MG10, e.g. use of static calculations rather than scale model testing, the appropriate sea state conditions to be tested and associated RFM information / procedures. Given the importance of the subject for the overall safety level of rotorcraft, the means of compliance need to be agreed with EASA.	N	Y	N	N	Y

ID	Subject	Part 27	Part 29	Affected paragraphs	Description	EASA position	SSD	Safety Emphasis Item (SEI)			
								(1)	(2)	(3)	(4)
#14-02	Ditching (CS 27/29 Amdt. 5 or later)	Y	Y	CS 27/29.801 CS 27/29.563, CS 27.783(c) / 29.783(h), CS 29.803(c), CS 27/29.805(c), CS 27/29.807(d), CS 29.809(j), CS 29.811(h), CS 29.813(d), CS 27/29.1470, CS 27/29.1555(d)(2) CS 27.1587(b)(3) / 29.1587(c)	The EASA NPA 2016-01 introduced a package of requirements to improve survivability in the event of a ditching or water impact.	Novelties introduced with CS27/29 Amdt. 5 concern: New definition of sea conditions Determination of the probability of capsizing by testing in irregular waves; EFS automatic deployment capability; EFS resistance demonstration to water impact; Underwater emergency exits; Emergency evacuation scenarios; Rotorcraft not sinking with failed EFS; Black and yellow markings of underwaters controls; Minimisation of impact damages preventing ELT functioning Given the importance of the subject for the overall safety level of rotorcraft and the novelty of the requirements, the means of compliance needs to be agreed with EASA. EASA retains verification of compliance demonstration with this requirement when compliance with this amendment or later is adopted for the first time on a specific product or by an applicant.	Y	Y	Y	N	N
#14-03	EFS (CS 27/29 Amdt. 5 or later)	Y	Y	CS 27/29.802 CS 27/29.563, CS 27.1587(b)(3) / 29.1587(c)	The EASA NPA 2016-01 introduced a package of requirements to improve survivability in the event of a ditching or water impact.	Novelties introduced with CS27/29 Amdt. 5 concern: New definition of sea conditions; Determination of the probability of capsizing by testing in irregular waves; Rotorcraft not sinking with failed EFS Given the importance of the subject for the overall safety level of rotorcraft and the novelty of the requirement, the means of compliance needs to be agreed with EASA. EASA retains verification of compliance demonstration with this requirement when compliance with this amendment or later is adopted for the first time on a specific product or by an applicant.	Y	Y	Y	N	N

ID	Subject	Part 27	Part 29	Affected paragraphs	Description	EASA position	SSD	Safety Emphasis Item (SEI)			
								(1)	(2)	(3)	(4)
#14-04	Ditching Safety Equipment (CS 27/29 Amdt. 5 or later)	Y	Y	CS 27/29.1411 CS 27/29.1415, CS 27/29.1561 CS 29.803(c)(1),	The EASA NPA 2016-01 introduced a package of requirements to improve survivability in the event of a ditching or water impact.	Novelties introduced with CS27/29 Amdt. 5 concern: Life rafts must be remotely deployable by the flight crew, occupants of the cabin and survivors in the water with the rotorcraft upright and floating or capsized; Life raft long and short retaining lines; Life raft substantiation for claimed ditching / EFS sea conditions; Number of life rafts; Life preservers within easy reach if not constantly worn; Survival equipment attached to each life raft; Direct step into the life raft of passengers; Given the importance of the subject for the overall safety level of rotorcraft and the novelty of the requirement, the means of compliance needs to be agreed with EASA. EASA retains verification of compliance demonstration with this requirement when compliance with this amendment or later is adopted for the first time on a specific product or by an applicant.	Y	Y	Y	N	N

Acronyms:

AC	Advisory Circular
ACNS	Airborne Communications, Navigation and Surveillance
AD	Airworthiness Directive
AdFC	Advanced Flight Controls
AEH	Airborne Electronic Hardware
AFCS	Automatic Flight Control System
AMC	Acceptable Means of Compliance
APU	Auxiliary Power Unit
ATT	Attitude (mode)
CA	Certificating Authority
CM	Certification Memorandum
CF/PDI	Configuration Files / Parameter Data Item
COMM	Communications
COTS	Commercial Off-The-Shelf
CRI	Certification Review Item
CS	Certification Specifications
DAL	Development Assurance Level
DUPF	Design Ultimate Pressure Factor(s)
EFS	Emergency Floatation System
EMC	Electromagnetic Compatibility
EMS	Emergency Medical Service
ESN	Electrical Structural Network
ETSO	European Technical Standard Order
EVS	Enhanced Vision System
FAR	Federal Aviation Regulations
FHA	Functional Hazard Assessment
FM	Formal Methods
FMS	Flight Management System
FPGA	Field Programmable Gate Array
HEC	Human External Cargo
HIRF	High Intensity Radiated Field
HMD	Head Mounted Display
HMI	Human Interface Machine
H/V	Height / Velocity
IBF	Inlet Barrier Filter
IFR	Instrument Flight Rules
IM	Interpretative Material
IP	Issue Paper
LPV	Localizer Performance with Vertical guidance
LVL	Level (mode)
MBD	Model Based Development
MCP	MultiCore Processor
MG	Miscellaneous Guidance
MoC	Means of Compliance
N/A	Not Applicable
NAV	Navigation
NORSEE	Non-Required Safety Enhancing Equipment
NPA	Notice of Proposed Amendment
NVIS	Night Vision Imaging System
OOT	Object Oriented Techniques
OPR	Open Problem Reports
PCDS	Personnel Carrying Device Systems
PMA	Parts Manufacturer Approval
POV	Primary Field of View
PS	Policy Statement
RA	Resolution Advisory
RFM	Rotorcraft Flight Manual
SAR	Search And Rescue
SC	Special Condition
SEI	Safety Emphasis Item
SSD	Significant Standard Difference
SSPC	Solid State Power Contactor
STC	Supplemental Type Certificate
SVS	Synthetic Vision Systems
TBO	Time Between Overhaul
TCAS	Traffic Collision Avoidance System
TC	Type Certificate
TOP	Take Off Power
TSO	Technical Standard Order
VA	Validating Authority
VFR	Visual Flight Rules
VHM	Vehicle Health Monitoring
VNE	Velocity to Never Exceed
WLAN	Wireless Local Area Network