

Anexo - Propostas de Alteração ao RBAC 25

RBAC 25 Emenda 147

<p align="center">Requisito Atual - Referência: 14CFR 25 EMD 146 <u>(destaque nosso)</u></p>	<p align="center">Requisito Proposto <u>(destaque acrescentado)</u></p>	<p align="center">Comentários</p>
<p><u>§ 25.353 - Não existente.</u></p>	<p>§ 25.353 Rudder control reversal conditions.</p> <p>Airplanes with a powered rudder control surface or surfaces must be designed for loads, considered to be ultimate, resulting from the yaw maneuver conditions specified in paragraphs (a) through (e) of this section at speeds from VMC to VC/MC. Any permanent deformation resulting from these ultimate load conditions must not prevent continued safe flight and landing. The applicant must evaluate these conditions with the landing gear retracted and speed brakes (and spoilers when used as speed brakes) retracted. The applicant must evaluate the effects of flaps, flaperons, or any other aerodynamic devices when used as flaps, and slats-extended configurations, if they are used in enroute conditions. Unbalanced aerodynamic moments about the center of gravity must be reacted in a rational or conservative manner considering the airplane inertia forces. In computing the loads on the airplane, the yawing velocity may be assumed to be zero. The applicant must assume a pilot force of 200 pounds when evaluating each of the following conditions: (a) With the airplane in unaccelerated flight at zero yaw, the flightdeck rudder control is suddenly and fully displaced to achieve the resulting rudder deflection, as limited by the control system or the control surface stops.</p> <p>(b) With the airplane yawed to the overswing sideslip angle, the flightdeck rudder control is suddenly and fully</p>	<p>Motivo:</p> <p>Provê requisitos adicionais para o projeto de estabilizador vertical prevendo a execução de reversões de leme pela tripulação.</p> <p>Objetivo:</p> <p>Aumentar a segurança de voo.</p>

	<p>displaced in the opposite direction, as limited by the control system or control surface stops.</p> <p>(c) With the airplane yawed to the opposite overswing sideslip angle, the flightdeck rudder control is suddenly and fully displaced in the opposite direction, as limited by the control system or control surface stops.</p> <p>(d) With the airplane yawed to the subsequent overswing sideslip angle, the flightdeck rudder control is suddenly and fully displaced in the opposite direction, as limited by the control system or control surface stops.</p> <p>(e) With the airplane yawed to the opposite overswing sideslip angle, the flightdeck rudder control is suddenly returned to neutral.</p>	
Requisito Atual (Ref.: 14CFR 25 EMD 146)	Apêndice I do RBAC 25 Emenda 147	Comentários
<p>25.1155 Reverse thrust and propeller pitch settings below the flight regime</p> <p>Each control for reverse thrust and for propeller pitch settings below the flight regime must have means to prevent its inadvertent operation. The means must have a positive lock or stop at the flight idle position and must require a separate and distinct operation by the crew to displace the control from the flight regime (forward thrust regime for turbojet powered airplanes).</p>	<p>25.1155-I Reverse thrust and propeller pitch settings below the flight regime</p> <p>Each control for selecting propeller pitch settings below the flight regime (reverse thrust for turbo-jet powered airplanes) must have the following:</p> <p>(a) A positive lock or stop which requires a separate and distinct operation by the flight crew to displace the control from the flight regime (forward thrust regime for turbo-jet powered airplanes), and it must only be possible to make this separate and distinct operation once the control has reached the flight idle position.</p> <p>(b) A means to prevent both inadvertent and intentional selection or activation of propeller pitch settings below the flight regime (reverse thrust for turbo-jet powered airplanes) when out of the approved in-flight operating</p>	<p>Resumo da Proposta: Substituir o requisito atual adotando integralmente o texto do CS-25 emenda 18.</p> <p>Envolvimento da ANAC: O requisito proposto baseia-se no resultado do grupo de trabalho ARAC <i>Powerplant Installation Harmonization Working Group – Task 14</i> (FCHWG) da FAA que concluiu os seus trabalhos em 2000. A ANAC tem aplicado o conteúdo técnico das recomendações desse grupo de trabalho por meio de FCARs repetitivos aos programas sob Certificação de Tipo desde então.</p> <p>Exemplos de FCARs Repetitivos Relacionados: Após a adoção do</p>

	<p>envelope for that function, and override of that means is prohibited.</p> <p>(c) A reliability, such that the loss of the means required by the paragraph (b) of this section is remote.</p> <p>(d) A caution provided to the flight crew when the means required by the paragraph (b) of this section is lost.</p> <p>(e) A caution provided to the flight crew when a cockpit control is displaced from the flight regime (forward thrust regime for turbo-jet powered airplanes) into a position to select propeller pitch settings below the flight regime (reverse thrust for turbo-jet powered airplanes) outside the approved in-flight operating envelope. This caution need not be provided if the means required by the paragraph (b) of this section is a mechanical baulk that prevents movement of the control.</p> <p>[RBAC 25 emenda XXX, Resolução nº xyz, de XX de xxxx de 20XX]</p>	<p>Requisito Proposto, espera-se que não seja mais necessária a emissão das seguintes FCARs repetitivas:</p> <ul style="list-style-type: none"> • EMB-390 PR-09 (CE) • ERJ 190-300 PR-06 (CE) <p>Justificativa: A proposta visa a incorporar ao RBAC 25 requisito atualizado cuja elaboração de seu conteúdo técnico ocorreu em fóruns internacionais de harmonização com participação direta da ANAC, sendo já aplicado <i>de facto</i> em programas de Certificação de Tipo por meio da utilização de FCARs repetitivos. A adoção do requisito harmonizado de conteúdo recente incorpora ao RBAC o aumento de nível de segurança já em prática atual na indústria, ao mesmo tempo que reduzirá a burocracia necessária para emissão de FCARs relacionados em novos programas de Certificação de Tipo.</p>
<p>25.1193 Cowling and nacelle skin</p> <p>(a) Each cowling must be constructed and supported so that it can resist any vibration, inertia, and air load to which it may be subjected in operation.</p> <p>(b) Cowling must meet the drainage and ventilation requirements of Sec. 25.1187.</p> <p>(c) On airplanes with a diaphragm isolating the engine power section from the engine accessory section, each part of the accessory section cowling subject to flame in</p>	<p>25.1193 Cowling and nacelle skin</p> <p>(a) Each cowling must be constructed and supported so that it can resist any vibration, inertia, and air load to which it may be subjected in operation.</p> <p>(b) Cowling must meet the drainage and ventilation requirements of RBAC 25.1187.</p> <p>(c) On airplanes with a diaphragm isolating the engine power section from the engine accessory section, each part of the accessory section cowling subject to flame in</p>	<p>Resumo da Proposta: <u>Substituir</u> o requisito 25.1193(e) atual adotando integralmente o texto do CS-25.1193(e) emenda 18.</p> <p>Envolvimento da ANAC: O requisito proposto baseia-se no resultado do grupo de trabalho ARAC <i>Powerplant Installation Harmonization Working Group</i> (FCHWG) da FAA que concluiu os seus trabalhos em 2000. A ANAC tem aplicado o conteúdo</p>

<p>case of fire in the engine power section of the powerplant must--</p> <p>(1) Be fireproof; and</p> <p>(2) Meet the requirements of Sec. 25.1191.</p> <p>(d) Each part of the cowling subject to high temperatures due to its nearness to exhaust system parts or exhaust gas impingement must be fireproof.</p> <p>(e) Each airplane must--</p> <p>(1) Be designed and constructed so that no fire originating in any fire zone can enter, either through openings or by burning through external skin, any other zone or region where it would create additional hazards;</p> <p>(2) Meet subparagraph (1) of this paragraph with the landing gear retracted (if applicable); and</p> <p>(3) Have fireproof skin in areas subject to flame if a fire starts in the engine power or accessory sections.</p>	<p>case of fire in the engine power section of the powerplant must--</p> <p>(1) Be fireproof; and</p> <p>(2) Meet the requirements of RBAC 25.1191.</p> <p>(d) Each part of the cowling subject to high temperatures due to its nearness to exhaust system parts or exhaust gas impingement must be fireproof.</p> <p>(e)-I Each airplane must –</p> <p>(1) Be designed and constructed so that no fire originating in any fire zone can enter, either through openings or by burning through external skin, any other zone or region where it would create additional hazards;</p> <p>(2) Meet subparagraph (e)(1) of this paragraph with the landing gear retracted (if applicable); and</p> <p>(3) Have cowlings and nacelles skins, in areas subject to flame if a fire starts in an engine fire zone, complying with the following:</p> <p>(i) For in-flight operations, cowlings and nacelles skins must be fireproof in the complete concerned areas, and</p> <p>(ii) For ground operations, cowlings and nacelles skins must be:</p> <p>(A) Fireproof in the portions of the concerned areas where a skin burn through would affect critical areas of the airplane, and</p> <p>(B) Fire-resistant or compliant with subparagraph (e)(1) of this paragraph in the remaining portions of the concerned areas.</p> <p>[RBAC 25 Emenda XXX, Resolução nº xyz, de XX de xxxx de 20XX]</p>	<p>técnico das recomendações desse grupo de trabalho por meio de FCARs repetitivos aos programas sob Certificação de Tipo.</p> <p>Exemplos de FCARs Repetitivos Relacionados: Após a adoção do Requisito Proposto, espera-se que não seja mais necessária a emissão das seguintes FCARs repetitivas:</p> <ul style="list-style-type: none"> ERJ 190-300 PR-17 (NES) <p>Justificativa: A proposta visa a incorporar ao RBAC 25 requisito atualizado cuja elaboração de seu conteúdo técnico ocorreu em fóruns internacionais de harmonização com participação direta da ANAC, sendo já aplicado <i>de facto</i> em programas de Certificação de Tipo por meio da utilização de FCARs repetitivos. A adoção do requisito harmonizado de conteúdo recente incorpora ao RBAC provisões para aplicação do requisito em solo conforme prática atual da indústria, ao mesmo tempo que reduzirá a burocracia necessária para emissão de FCARs relacionados em novos programas de Certificação de Tipo.</p>
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RBAC 25 Emenda 148

<p align="center">Requisito Atual - Referência: 14CFR 25 EMD 147</p>	<p align="center">Requisito Proposto (destaque acrescentado)</p>	<p align="center">Comentários</p>
<p>§ 25.471 General</p> <p>...</p> <p>[(b) Critical centers of gravity. The critical centers of gravity within the range for which certification is requested must be selected so that the maximum design loads are obtained in each landing gear element. Fore and aft, vertical, and lateral airplane centers of gravity must be considered. Lateral displacements of the c.g. from the airplane centerline which would result in main gear loads not greater than 103 percent of the critical design load for symmetrical loading conditions may be selected without considering the effects of these lateral c.g. displacements on the loading of the main gear elements, or on the airplane structure provided--</p> <p>...</p> <p>(2) Appropriate loading instructions for random disposable loads are included under the provisions of Sec. 25.1583(c)(1) to ensure that the lateral displacement of the center of gravity is maintained within these limits.</p> <p>...</p>	<p>§ 25.471 General</p> <p>...</p> <p>[(b) Critical centers of gravity. The critical centers of gravity within the range for which certification is requested must be selected so that the maximum design loads are obtained in each landing gear element. Fore and aft, vertical, and lateral airplane centers of gravity must be considered. Lateral displacements of the c.g. from the airplane centerline which would result in main gear loads not greater than 103 percent of the critical design load for symmetrical loading conditions may be selected without considering the effects of these lateral c.g. displacements on the loading of the main gear elements, or on the airplane structure provided--</p> <p>...</p> <p>(2) Appropriate loading instructions for random disposable loads are included under the provisions of Sec. 25.1583(c)(2) to ensure that the lateral displacement of the center of gravity is maintained within these limits.</p> <p>...</p>	<p>Motivo:</p> <p>Corrige erros tipográficos.</p> <p>Objetivo:</p> <p>Aumentar o índice de qualidade do regulamento.</p>
<p>§ 25.525 Application of loads.</p> <p>...</p> <p>(b) In applying the loads resulting from the load factors prescribed in Sec. 25.527, the loads may be distributed over the hull or main float bottom (in order to avoid</p>	<p>§ 25.525 Application of loads.</p> <p>...</p> <p>(b) In applying the loads resulting from the load factors prescribed in Sec. 25.527, the loads may be distributed over the hull or main float bottom (in order to avoid</p>	<p>Motivo:</p> <p>Corrige erros tipográficos.</p>

<p>excessive local shear loads and bending moments at the location of water load application) using pressures not less than those prescribed in Sec. 25.533(b).</p> <p>...</p>	<p>excessive local shear loads and bending moments at the location of water load application) using pressures not less than those prescribed in Sec. 25.533(c).</p> <p>...</p>	<p>Objetivo:</p> <p>Aumentar o índice de qualidade do regulamento.</p>
<p>§ 25.535 Auxiliary float loads.</p> <p>...</p> <p>(d) Unsymmetrical step loading. The resultant water load consists of a component equal to 0.75 times the load specified in paragraph (a) of this section and a side component equal to $3.25 \tan \beta$ times the load specified in paragraph (b) of this section. The side load must be applied perpendicularly to the plane of symmetry of the float at a point midway between the keel and the chine.</p> <p>...</p>	<p>§ 25.535 Auxiliary float loads.</p> <p>...</p> <p>(d) Unsymmetrical step loading. The resultant water load consists of a component equal to 0.75 times the load specified in paragraph (a) of this section and a side component equal to 0.25 $\tan \beta$ times the load specified in paragraph (b) of this section. The side load must be applied perpendicularly to the plane of symmetry of the float at a point midway between the keel and the chine.</p> <p>...</p>	<p>Motivo:</p> <p>Corrige erros tipográficos.</p> <p>Objetivo:</p> <p>Aumentar o índice de qualidade do regulamento.</p>
<p>§ 25.571 Damage - tolerance and fatigue evaluation of structure.</p> <p>...</p>	<p>§ 25.571 Damage-tolerance and fatigue evaluation of structure.</p> <p>...</p>	<p>Motivo:</p> <p>Corrige erros tipográficos.</p> <p>Objetivo:</p> <p>Aumentar o índice de qualidade do regulamento.</p>
<p>§ 25.903 Engines.</p> <p>(a) Engine type certificate.</p> <p>...</p> <p>(3) Each turbine engine must comply with one of the following paragraphs:</p>	<p>§ 25.903 Engines.</p> <p>(a) Engine type certificate.</p> <p>...</p> <p>(3) Each turbine engine must comply with one of the following paragraphs:</p>	<p>Motivo:</p> <p>Corrige erros tipográficos.</p> <p>Objetivo:</p>

<p>...</p> <p>(ii) Section 33.68 of this chapter in effect on February 23, 1984, or as subsequently amended before January 5, 2015, unless that engine's ice accumulation service history has resulted in an unsafe condition; or</p> <p>(iii) Section 33.68 of this chapter in effect on October 1, 1974, or as subsequently amended prior to February 23, 1984, unless that engine's ice accumulation service history has resulted in an unsafe condition; or</p> <p>...</p>	<p>...</p> <p>(ii) Section 33.68 of this chapter in effect on March 26, 1984, or as subsequently amended before January 5, 2015, unless that engine's ice accumulation service history has resulted in an unsafe condition; or</p> <p>(iii) Section 33.68 of this chapter in effect on October 31, 1974, or as subsequently amended prior to February 23, 1984, unless that engine's ice accumulation service history has resulted in an unsafe condition; or</p> <p>...</p>	<p>Aumentar o índice de qualidade do regulamento.</p>
<p>§ 25.1517 Rough air speed, VRA.</p> <p>...</p> <p>(b) At altitudes where VMO is not limited by Mach number, in the absence of a rational investigation substantiating the use of other values, VRA must be less than VMO - 35 KTAS.</p> <p>...</p>	<p>§ 25.1517 Rough air speed, VRA.</p> <p>...</p> <p>(b) At altitudes where VMO is not limited by Mach number, in the absence of a rational investigation substantiating the use of other values, VRA must be less than VMO minus 35 KTAS.</p> <p>...</p>	<p>Motivo:</p> <p>Corrige erros tipográficos.</p> <p>Objetivo:</p> <p>Aumentar o índice de qualidade do regulamento.</p>

RBAC 25 Emenda 149

Requisito Atual - Referência: <i>14CFR 25 EMD 148</i>	Requisito Proposto	Comentários
<p>§ 25.365 Pressurized compartment loads.</p> <p>...</p> <p>(g) Reasonable design precautions must be taken to minimize the probability of parts becoming detached and injuring occupants while in their seats.</p>	<p>§ 25.365 Pressurized compartment loads.</p> <p>...</p> <p>(g)</p> <p>(1) Except as provided in paragraph (g)(2) of this section, bulkheads, floors, and partitions in pressurized compartments for occupants must be designed to withstand the conditions specified in paragraph (e) of this section. In addition, reasonable design precautions must be taken to minimize the probability of parts becoming detached and injuring occupants while in their seats.</p> <p>(2) Partitions adjacent to the opening specified in paragraph (e)(2) of this section need not be designed to withstand that condition provided—</p> <p>(i) Failure of the partition would not interfere with continued safe flight and landing; and</p> <p>(ii) Designing the partition to withstand the condition specified in paragraph (e)(2) of this section would be impractical.</p>	<p>Motivo:</p> <p>Alteração do requisito conforme emissão de desvios à regra repetitivos que não impactam na segurança de voo.</p> <p>Objetivo:</p> <p>Dar proporcionalidade e aumentar o índice de qualidade do regulamento.</p>

RBAC 25 Emenda 150

<p align="center">Requisito Atual - Referência: 14CFR 25 EMD 149 <i>(destaque acrescentado)</i></p>	<p align="center">Requisito Proposto</p>	<p align="center">Comentários</p>
<p>§ 25.795 Security considerations. (a)...</p> <p>(4) - Não existente</p>	<p>§ 25.795 Security considerations. (a)...</p> <p>(4) If required by the operating rules of this chapter, an installed physical secondary barrier (IPSB) must be installed to resist intrusion into the flightdeck whenever the flightdeck door is opened. When deployed, the IPSB must:</p> <p>(i) Resist a 250 pound (1113 Newtons) static load in the direction of the passenger cabin applied at the most critical locations on the IPSB;</p> <p>(ii) Resist a 600 pound (2669 Newtons) static load in the direction of the flightdeck applied at the most critical locations on the IPSB;</p> <p>(iii) Delay a person attempting to access the flightdeck by at least the time required for a crewmember to open and reclose the flightdeck door, but no less than 5 seconds;</p> <p>(iv) Prevent a person from reaching through and touching the flightdeck door;</p> <p>(v) Allow for necessary crewmember activities; and</p> <p>(vi) Provide line-of-sight visibility between the flightdeck door and the cabin.</p>	<p>Motivo:</p> <p>Requisito prevê a mitigação de vulnerabilidade pela instalação de barreira física adicional para controle de acesso à cabine de comando.</p> <p>Objetivo:</p> <p>Aumentar a segurança contra atos de interferência ilícita (<i>Security</i>).</p>