EASA Position regarding FAA AD 2021-23-13 – Not eligible for adoption

EASA considerations, leading to the conclusion that Federal Aviation Administration (FAA) AD 2021-23-13 is not eligible for adoption

On 09 December 2021, the FAA issued AD 2021-23-13, applicable to helicopters, if equipped with a radio (also known as radar) altimeter.

That AD requires a revision of the Rotorcraft Flight Manual (RFM) to incorporate limitations prohibiting certain operations requiring radio altimeter data when operating in U.S. airspace (see Figure 1 to paragraph (g) of the AD), when in the presence of 5G C-Band interference as identified by Notices to Air Missions (NOTAMs).

The Applicability of FAA AD 2021-23-13 provides a list of affected helicopter types (not exhaustive – "but not limited to") which includes many for which the FAA does not represent the State of Design.

For the reasons described above, FAA AD 2021-23-13 is not eligible for adoption by EASA under the provisions of ED Decision 2019/018/ED.

EASA has not been able to determine the presence of an unsafe condition and but continues to closely coordinate with the affected design approval holders before deciding if mandatory action is warranted.

For further information, please contact the Safety Information Section, Certification Directorate, EASA, E-mail: ADs@easa.europa.eu.

Original Signed

Cologne, 10 December 2021

[Federal Register Volume 86, Number 234 (Thursday, December 9, 2021)]
[Rules and Regulations]
[Pages 69992-69996]
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[FR Doc No: 2021-26779]

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2021-0954; Project Identifier AD-2021-01170-R; Amendment 39-21811; AD 2021-23-13]

RIN 2120-AA64

Airworthiness Directives; Various Helicopters

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Final rule; request for comments.

SUMMARY: The FAA is adopting a new airworthiness directive (AD) for all helicopters equipped with a radio (also known as radar) altimeter. This AD was prompted by a determination that radio altimeters cannot be relied upon to perform their intended function if they experience interference from wireless broadband operations in the 3.7-3.98 GHz frequency band (5G C-Band). This AD requires revising the limitations section of the existing rotorcraft flight manual (RFM) for your helicopter to incorporate limitations prohibiting certain operations requiring radio altimeter data when in the presence of 5G C-Band interference in areas as identified by Notices to Air Missions (NOTAMs). The FAA is issuing this AD to address the unsafe condition on these products.

DATES: This AD is effective December 9, 2021.

The FAA must receive comments on this AD by January 24, 2022.

ADDRESSES: You may send comments, using the procedures found in 14 CFR 11.43 and 11.45, by any of the following methods:

- Federal eRulemaking Portal: Go to https://www.regulations.gov. Follow the instructions for submitting comments.
- Fax: (202) 493-2251.
- Mail: U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE, Washington, DC 20590.
- Hand Delivery: Deliver to Mail address above between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

Examining the AD Docket

You may examine the AD docket at https://www.regulations.gov by searching for and locating Docket No. FAA-2021-0954; or in person at Docket Operations between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this final rule, any comments received, and other information. The street address for the Docket Operations is listed above.

FOR FURTHER INFORMATION CONTACT: Dave Swartz, Continued Operational Safety Technical Advisor, COS Program Management Section, Operational Safety Branch, FAA, 222 W 7th Ave., M/S #14 Anchorage, AK 99513; phone: 817-222-5390; email: operationalsafety@faa.gov.

SUPPLEMENTARY INFORMATION:

Background

In March 2020, the United States Federal Communications Commission (FCC) adopted final rules authorizing flexible use of the 3.7-3.98 GHz band for next generation services, including 5G and other advanced spectrum-based services.[1] Pursuant to these rules, C-Band wireless broadband deployment is permitted to occur in phases with the opportunity for operations in the lower 100 megahertz of the band (3.7-3.8 GHz) in 46 markets beginning as soon as December 5, 2021; however, the FAA does not expect actual deployment to commence until January 5, 2022. This AD refers to "5G C-Band" interference, but wireless broadband technologies, other than 5G, may use the same frequency band.[2] These other uses of the same frequency band are within the scope of this AD since they would introduce the same risk of radio altimeter interference as 5G C-Band.

In April 2020, RTCA formed a 5G Task Force, including members from RTCA, the FAA, aircraft and radio altimeter manufacturers, European Organisation for Civil Aviation Equipment (EUROCAE), industry organizations, and operators, to perform "a quantitative evaluation of radar altimeter performance regarding RF interference from expected 5G emissions in the 3.7-3.98 GHz band, as well as a detailed assessment of the risk of such interference occurring and impacting aviation safety." [3] Based on the work of the task force, RTCA published a report, which concluded that there is "a major risk that 5G telecommunications systems in the 3.7-3.98 GHz band will cause harmful interference to radar altimeters on all types of civil aircraft– including commercial transport airplanes; business, regional, and general aviation airplanes; and both transport and general aviation helicopters." [4]

The report further concludes that the likelihood and severity of radio frequency interference increases for operations at lower altitudes. That interference could cause the radio altimeter to either become inoperable or present misleading information, and/or also affect associated systems on civil aircraft. The RTCA report refers to FCC Report and Order (R&O) FCC 20-22,[5] which identifies radio frequencies and power level conditions for the new C-Band services. The RTCA report identified the

[1] The FCC's rules did not make C-Band wireless broadband available in Alaska, Hawaii, and the U.S. Territories.

[2] The regulatory text of the AD uses the term "5G C-Band" which, for purposes of this AD, has the same meaning as "5G", "C-Band" and "3.7-3.98 GHz."

[3] RTCA Paper No. 274-20/PMC-2073, Assessment of C-Band Mobile Telecommunications Interference Impact on Low Range Radar Altimeter Options, dated October 7, 2020 (RTCA Paper No. 274-20/PMC-2073), page i. This document is available in Docket No. FAA-2021-0954, and at https://www.rtca.org/wp-content/uploads/2020/10/SC-239-5G-Interference-Assessment-Report_274-20-PMC-2073_accepted_changes.pdf.

[4] RTCA Paper No. 274-20/PMC-2073, page i.

[5] FCC Report and Order (R&O) FCC 20-22 in the Matter of Expanding Flexible Use of the 3.7-4.2 GHz Band, adopted February 28, 2020, and released March 3, 2020. This document is available in Docket No. FAA-2021-0954, and at https://www.fcc.gov/document/fcc-expands-flexible-use-c-band-5g-0.

possibility of interference from both wireless emitters (on base stations, for example) as well as onboard user handsets. The RTCA report and conclusions remain under review, including by federal spectrum regulators. The FAA risk assessment included consideration of the RTCA report, public comments to the RTCA report, and analyses from radio altimeter manufacturers and aircraft manufacturers in support of the safety risk determination. The analyses FAA considered were consistent with RTCA's conclusions pertaining to radio altimeter interference from C-Band emissions. The FAA determined that, at this time, no information has been presented that shows radio altimeters are not susceptible to interference caused by C-Band emissions permitted in the United States.

Additionally, the deployment of C-Band wireless broadband networks is occurring globally. In certain countries, deployment has already occurred in C-Band frequencies. In some countries, temporary technical, regulatory, and operational mitigations on C-Band systems have been implemented while aviation authorities complete their safety assessments. Under the FCC rules adopted in 2020, base stations in rural areas of the United States are permitted to emit at higher levels in comparison to other countries.

The radio altimeter is an important aircraft instrument, and its intended function is to provide direct height-above-terrain/water information to a variety of aircraft systems. Commercial aviation radio altimeters operate in the 4.2-4.4 GHz band, which is separated by 220 megahertz from the C-Band telecommunication systems in the 3.7-3.98 GHz band. The radio altimeter is more precise than a barometric altimeter and for that reason is used where aircraft height over the ground needs to be precisely measured, such as autohover or other low altitude operations. The receiver on the radio altimeter typically is highly accurate, however it may deliver erroneous results in the presence of out-of-band radio frequency emissions from other frequency bands. The radio altimeter must detect faint signals reflected off the ground to measure altitude, in a manner similar to radar. Out-of-band signals could significantly degrade radio altimeter functions during critical phases of flight, if the altimeter is unable to sufficiently reject those signals.

Many operators need to be able to land in low visibility conditions. These operators employ specially certified equipment and flightcrew training in order to be able to fly closer to the ground during approach in instrument conditions without visual reference to the landing environment. These operations can only be conducted with reference to actual height above the ground, as measured by a radio altimeter.

Additionally, automatic and/or manual flight guidance systems on helicopters facilitate low visibility operations and rely on accurate radio altimeter inputs. These inputs may provide height data for landing and takeoff for Category A and Category B operations. Anomalous (missing or erroneous) radio altimeter inputs to these systems may cause the aircraft to be maneuvered in an unexpected or hazardous manner during the final stages of approach and landing, and may not be detectable by the pilot in time to maintain continued safe flight and landing. Inaccurate radio altimeter data can result in pilots not trusting their instruments, eroding the foundation on which all instrument flight training is built.

Although the FAA has determined operations immediately at risk are those requiring a radio altimeter to takeoff, land, or establish and maintain a hover, a wide range of automated safety systems rely on radio altimeter data. The FAA continues to work with inter-agency and industry stakeholders to collect data on potential effects to these systems to determine whether additional mitigations are necessary. The FAA determined, however, that mandatory action is not immediately required for these systems.

The FAA plans to use data provided by telecommunications providers to determine which heliports, airports, or areas within the United States have or will have C-Band base stations or other devices that could potentially impact helicopter systems. NOTAMs will be issued, as necessary, to state the specific areas where the data from a radio altimeter may be unreliable due to the presence of

5G C-Band wireless broadband signals.[6] For this reason, this AD requires flight manual limitations that prohibit certain operations requiring radio altimeter data in areas that will be identified by NOTAMs. Due to the dynamic nature of base station activation and the ongoing process of identifying the resulting affected airspace, including potential consideration for variability in C-Band deployment conditions such as radiated power levels and locations, the FAA has determined that NOTAMs are the best means to communicate changes in restrictions within affected areas.

Finally, the FAA notes that in accordance with paragraph (h) of this AD, any person may propose and request FAA approval of an alternative method of compliance (AMOC). The proposed AMOC must include specific conditions that would address the unsafe condition (e.g., by providing information substantiating that certain aircraft or altimeter models are not susceptible to C-Band radio frequency interference).

FAA's Determination

The FAA is issuing this AD because the agency has determined the unsafe condition described previously is likely to exist or develop in helicopters with a radio altimeter as part of their type design.

AD Requirements

This AD requires revising the limitations section of the existing RFM for your helicopter to incorporate limitations prohibiting certain operations requiring radio altimeter data when in the presence of 5G C-Band wireless broadband signals in areas as identified by NOTAM.

These prohibitions could prevent flights and could also result in flight diversions.

Compliance With RFM Revisions

Section 91.9 prohibits any person from operating a civil aircraft without complying with the operating limitations specified in the RFM.

Interim Action

The FAA considers this AD to be an interim action. If final action is later identified, the FAA might consider further rulemaking.

Justification for Immediate Adoption and Determination of the Effective Date

Section 553(b)(3)(B) of the Administrative Procedure Act (APA) (5 U.S.C. 551 et seq.) authorizes agencies to dispense with notice and comment procedures for rules when the agency, for "good cause," finds that those procedures are "impracticable, unnecessary, or contrary to the public interest." Under this section, an agency, upon finding good cause, may issue a final rule without providing notice and seeking comment prior to issuance. Further, section 553(d) of the APA authorizes agencies to make rules effective in less than thirty days, upon a finding of good cause.

An unsafe condition exists that requires the immediate adoption of this AD without providing an opportunity for public comments prior to adoption. The FAA has found that the risk to the flying public justifies foregoing notice and comment prior to adoption of this rule because radio altimeter anomalies that are undetected by the aircraft automation or pilot, particularly close to the ground, could lead to loss of continued safe flight and landing. The urgency is based on C-Band wireless broadband deployment, which is expected to occur in phases with operations beginning as soon as

[6] The FAA's process for issuing NOTAMs is described in FAA Order 7930.2S, Notices to Air Missions (NOTAM), December 2, 2021.

January 5, 2022. Accordingly, notice and opportunity for prior public comment are impracticable and contrary to the public interest pursuant to 5 U.S.C. 553(b)(3)(B).

In addition, the FAA finds that good cause exists pursuant to 5 U.S.C. 553(d) for making this amendment effective in less than 30 days, for the same reasons the FAA found good cause to forego notice and comment.

Comments Invited

The FAA invites you to send any written data, views, or arguments about this final rule. Send your comments to an address listed under ADDRESSES. Include "Docket No. FAA-2021-0954 and Project Identifier AD-2021-01170-R" at the beginning of your comments. The most helpful comments reference a specific portion of the final rule, explain the reason for any recommended change, and include supporting data. The FAA will consider all comments received by the closing date and may amend this final rule because of those comments.

Except for Confidential Business Information (CBI) as described in the following paragraph, and other information as described in 14 CFR 11.35, the FAA will post all comments received, without change, to https://www.regulations.gov, including any personal information you provide. The agency will also post a report summarizing each substantive verbal contact received about this final rule.

Confidential Business Information

CBI is commercial or financial information that is both customarily and actually treated as private by its owner. Under the Freedom of Information Act (FOIA) (5 U.S.C. 552), CBI is exempt from public disclosure. If your comments responsive to this AD contain commercial or financial information that is customarily treated as private, that you actually treat as private, and that is relevant or responsive to this AD, it is important that you clearly designate the submitted comments as CBI. Please mark each page of your submission containing CBI as "PROPIN." The FAA will treat such marked submissions as confidential under the FOIA, and they will not be placed in the public docket of this AD. Submissions containing CBI should be sent to Dave Swartz, Continued Operational Safety Technical Advisor, COS Program Management Section, Operational Safety Branch, FAA, 222 W. 7th Ave, M/S #14 Anchorage, AK 99513; phone: 817-222-5390; email: operationalsafety@faa.gov. Any commentary that the FAA receives which is not specifically designated as CBI will be placed in the public docket for this rulemaking.

Regulatory Flexibility Act

The requirements of the Regulatory Flexibility Act (RFA) do not apply when an agency finds good cause pursuant to 5 U.S.C. 553 to adopt a rule without prior notice and comment. Because FAA has determined that it has good cause to adopt this rule without prior notice and comment, RFA analysis is not required.

Impact on Intrastate Aviation in Alaska

For the reasons discussed above, this AD will not affect intrastate aviation in Alaska.

Costs of Compliance

The FAA estimates that this AD affects 1,828 helicopters of U.S. registry. Labor rates are estimated at $85 per work-hour. Based on these numbers, the FAA estimates the following costs to comply with this AD.

Revising the existing RFM for your helicopter would take about 1 work-hour for an estimated cost of $85 per helicopter or $155,380 for the U.S. fleet.

As previously discussed, there may be other impacts to aviation; however there remains uncertainty as to cost due to various factors such as which areas within the United States have, or will have, base stations or other devices that could interfere with aircraft radio altimeters.

Authority for This Rulemaking

Title 49 of the United States Code specifies the FAA's authority to issue rules on aviation safety. Subtitle I, section 106, describes the authority of the FAA Administrator. Subtitle VII: Aviation Programs describes in more detail the scope of the Agency's authority.

The FAA is issuing this rulemaking under the authority described in Subtitle VII, Part A, Subpart III, Section 44701: General requirements. Under that section, Congress charges the FAA with promoting safe flight of civil aircraft in air commerce by prescribing regulations for practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This regulation is within the scope of that authority because it addresses an unsafe condition that is likely to exist or develop on products identified in this rulemaking action.

Regulatory Findings

This AD will not have federalism implications under Executive Order 13132. This AD will not have a substantial direct effect on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government.

List of Subjects in 14 CFR Part 39

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

The Amendment

Accordingly, under the authority delegated to me by the Administrator, the FAA amends 14 CFR part 39 as follows:

PART 39–AIRWORTHINESS DIRECTIVES

1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

§ 39.13 [Amended]

2. The FAA amends § 39.13 by adding the following new airworthiness directive:

2021-23-13 Various Helicopters: Amendment 39-21811; Docket No. FAA-2021-0954; Project Identifier AD-2021-01170-R.

(a) Effective Date

This airworthiness directive (AD) is effective December 9, 2021.

(b) Affected ADs

None.

(c) Applicability

This AD applies to all helicopters, certificated in any category, equipped with a radio (also known as radar) altimeter. These radio altimeters are installed on various helicopter models including, but not limited to, the helicopters for which the design approval holder is identified in paragraphs (c)(1) through (20) of this AD.

(1) Airbus Helicopters
(2) Airbus Helicopters Deutschland GmbH
(3) Air Space Design and Manufacturing, LLC
(4) Bell Textron Canada Limited
(5) Bell Textron Inc.
(6) Brantly International, Inc.
(7) Centerpointe Aerospace Inc.
(8) Columbia Helicopters, Inc.
(9) The Enstrom Helicopter Corporation
(10) Erickson Air-Crane Incorporated, DBA Erickson Air-Crane
(11) Helicopteres Guimbal
(12) Siam Hiller Holdings, Inc.
(13) Kaman Aerospace Corporation
(14) Leonardo S.p.a.
(15) MD Helicopters Inc.
(16) PZL Swidnik S.A.
(17) Robinson Helicopter Company
(18) Schweizer RSG LLC
(19) Scotts-Bell 47 Inc.
(20) Sikorsky Aircraft Corporation

(d) Subject

Joint Aircraft Service Component (JASC) Code: 3444, Ground Proximity System.

(e) Unsafe Condition

This AD was prompted by a determination that radio altimeters cannot be relied upon to perform their intended function if they experience interference from wireless broadband operations in the 3.7-3.98 GHz frequency band (5G C-Band). The FAA is issuing this AD because radio altimeter anomalies that are undetected by the automation or pilot, particularly close to the ground, could lead to loss of continued safe flight and landing.

(f) Compliance

Comply with this AD within the compliance times specified, unless already done.

(g) Rotorcraft Flight Manual (RFM) Revision

On or before January 4, 2022: Revise the Limitations Section of the existing RFM for your helicopter by incorporating the limitations specified in figure 1 to paragraph (g) of this AD. This may be done by inserting a copy of this AD into the existing RFM for your helicopter. The action required by this paragraph may be performed by the owner/operator (pilot) holding at least a private pilot certificate and must be entered into the aircraft records showing compliance with this AD in accordance with 14 CFR 43.9(a)(1) through (4) and 14 CFR 91.417(a)(2)(v). The record must be maintained as required by 14 CFR 91.417 or 14 CFR 135.439.

Figure 1 to paragraph (g) – *RFM Revision*

(Required by AD 2021-23-13)

Radio Altimeter Flight Restrictions

When operating in U.S. airspace, the following operations requiring radio altimeter are prohibited in the presence of 5G C-Band wireless broadband interference as identified by NOTAM (NOTAMs will be issued to state the specific areas where the radio altimeter is unreliable due to the presence of 5G C-Band wireless broadband interference):

- Performing approaches that require radio altimeter minimums for rotorcraft offshore operations. Barometric minimums must be used for these operations instead.
- Engaging hover autopilot modes that require radio altimeter data.
- Engaging Search and Rescue (SAR) autopilot modes that require radio altimeter data.
- Performing takeoffs and landings in accordance with any procedure (Category A, Category B, or by Performance Class in the Rotorcraft Flight Manual or Operations Specification) that requires the use of radio altimeter data.

(h) Alternative Methods of Compliance (AMOCs)

(1) The Manager, Operational Safety Branch, FAA, has the authority to approve AMOCs for this AD, if requested using the procedures found in 14 CFR 39.19. In accordance with 14 CFR 39.19, send your request to your principal inspector or local Flight Standards District Office, as appropriate. If sending information directly to the manager of the Operational Safety Branch, send it to the attention of the person identified in paragraph (i) of this AD. Information may be emailed to: AMOC@faa.gov.

(2) Before using any approved AMOC, notify your appropriate principal inspector, or lacking a principal inspector, the manager of the local flight standards district office/certificate holding district office.

(i) Related Information

For more information about this AD, contact Dave Swartz, Continued Operational Safety Technical Advisor, COS Program Management Section, Operational Safety Branch, FAA, 222 W 7th Ave., M/S #14 Anchorage, AK 99513; phone: 817-222-5390; email: operationalsafety@faa.gov.

(j) Material Incorporated by Reference

None.

Issued on December 7, 2021.
Gaetano A. Sciortino,
Deputy Director for Strategic Initiatives, Compliance & Airworthiness Division, Aircraft Certification Service.
[FR Doc. 2021-26779 Filed 12-7-21; 2:00 pm]