A Textron Company

OPERATION SAFETY NOTICE **GEN-23-52**
27 July 2023

TO: **All owners and operators of Bell helicopters**

SUBJECT: **POTENTIAL 5G C-BAND WIRELESS BROADBAND INTERFERENCE WITH RADIO (RADAR) ALTIMETER EQUIPMENT**

This General Operation Safety Notice (OSN) **SUPERSEDES** and replaces General OSN GEN-22-51.

This OSN is to provide the Bell position with regards to the operational restrictions discussed in the Federal Aviation Administration (FAA) Airworthiness Directive (AD) 2023-11-07 and the Transport Canada Civil Aviation (TCCA) AD CF-2023-49. In addition, this OSN informs owners/operators of solutions proposed by Bell to alleviate the operational restrictions introduced by the FAA and the TCCA Airworthiness Directives. The FAA issued AD 2023-11-07 due to the possibilities that undetected radio altimeter anomalies, particularly close to the ground, could lead to loss of continued safe flight and landing.

The FAA AD 2023-11-07 supersedes AD 2021-23-13, and the TCCA AD CF-2023-49 supersedes AD CF-2021-53. Those AD's became effective June 22, 2023, and July 10, 2023, respectively.

Based on the information in the AD 2023-11-07, the FAA is making the operating restrictions applicable to the whole contiguous U.S. airspace in lieu of being managed through Notices To Air Missions (NOTAMs), as well as adding Isotropic and Spurious interference effects on rotorcraft antenna. As stated in the AD CF-2023-49, TCCA agrees with the FAA's conclusions and requires the same actions as FAA AD 2023-11-07 for Canadian registered rotorcraft, that are not of U.S. state of design, when operating in contiguous U.S. airspace.

For non-radio altimeter tolerant rotorcraft, on or before June 30, 2023, the AD 2023-11-07 requires a revision of the Limitations Section of the applicable Rotorcraft Flight Manual

(RFM) to include the information specified in Figure 4, and remove the RFM revision that was required by AD 2021-23-13.

The *Italic* text below, extracted from the AD, is followed by the Bell position for the Bell models and type of operations that are potentially affected by the 5G C-Band frequencies.

The 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*:

- *Performing approaches that require radio altimeter minimums for rotorcraft offshore operations. Barometric minimums must be used for these operations instead.*
    - This could potentially affect all Bell helicopter models performing Instrument Flight Rule (IFR) approaches during offshore operations.
- *Engaging hover autopilot modes that require radio altimeter data.*
    - The 412EPI and 412EPX variants with the optional Enhanced Hover Hold (EHH) Kit installed could potentially be affected when engaging the EHH mode.
    - The 412EP with the optional 4-axis Automatic Flight Control System (AFCS) Kit installed could potentially be affected when engaging the RADALT Hold mode.
- *Engaging Search and Rescue (SAR) autopilot modes that require radio altimeter data.*
    - Only the 412EP model with the optional SAR Modes Kit installed and using the SAR autopilot mode, during operations over water, could potentially be affected.
- *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.*
    - This could potentially affect the 206L4-T, 212, 222, 222B, 222U, 230, 412 (all variants), 427, 429, and 430 helicopter models performing Category A takeoffs and landings.

Modifying the rotorcraft from a non-radio altimeter tolerant rotorcraft to a radio altimeter tolerant rotorcraft terminates the limitations of AD 2023-11-07 for that rotorcraft.

Radio altimeter manufacturers have been developing solutions to make their systems tolerant to the potential 5G interference. These solutions are in the form of bandpass filters that will be integrated in the systems.

The bandpass filters are radio frequency (RF) filters that allow the signal in the radio altimeter frequency band of 4200-4400 MHz to pass normally and rejects signals at other frequencies thereby reducing potential interference from 5G sources in the U.S. Federal Communications Commission (FCC) authorized 3700-3980 MHz band, along with other 5G sources authorized worldwide that are nearby or adjacent to the 4200-4400 MHz frequency band.

Bell has been working with the radio altimeter manufactures to integrate these bandpass filters as optional kits that will be offered to owners/operators.

In conjunction with the AD 2023-11-07, the FAA has published the Policy Statement PS-AIR-600-39-01 Demonstration of RADALT Tolerant Aircraft that provides guidance for demonstrating an aircraft is a “radio altimeter tolerant rotorcraft” as defined in paragraph (g)(1) of AD 2023-11-07 using a method approved by the FAA.

The first optional 5G tolerant kit that will be made available will be for the 429, followed by the 407, the 412EPX/EPI, and the 505. Availability of the kits will be communicated to owners/operators by publication of Information Letters for those model helicopters.

Along with those Information Letters, Bell will provide the written letter approval from the FAA, as reflected in the Policy Statement, for the kit showing it meets the requirements of the AD to be considered a radio altimeter tolerant rotorcraft once the kit is installed, thereby removing the restrictions of the AD in the RFM.

Bell is currently evaluating the needs for the active, in service, legacy helicopter models no longer in production.

For any questions regarding this letter, please contact:

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