

Safety Recommendation 2015-030

It is recommended that, when the European Aviation Safety Agency requires a radio altimeter to be fitted to a helicopter operating under an Air Operator's Certificate, it also stipulates that the equipment is capable of being powered in all phases of flight, including emergency situations, without intervention by the crew.

Date Safety Recommendation made:

19 October 2015

LATEST RESPONSE

Response received:

23 March 2016

The legal framework on equipping helicopters with a radio altimeter is contained in Commission Regulation (EU) N° 965/2012 and related Acceptable Means of Compliance (AMC) and Guidance Material (GM), as follows:

- Annex IV Part-CAT (Commercial Air Transport operations): for flights over water under certain conditions (refer to CAT.IDE.H.145), and for 'coastal transit' operations (refer to CAT.OP.MPA.137 as further detailed in GM1 CAT.OP.MPA.137 (b)).

- Annex V Part-SPA (Specific Approvals): for operations with night vision imaging system (NVIS) (refer to SPA.NVIS.110)

The Agency certifies any radio altimeter installation proposed by applicants, whether it is required by the operational regulation or not. In this frame, the Agency investigates systematically the criticality of radio altimeter availability both in normal and emergency situations.

When a procedure is proposed which requires the pilot to use the radio altimeter, the procedure is assessed to check if it is feasible and can be performed by pilots without requiring exceptional piloting skills. If it appears that the radio altimeter must be available without pilot action, the Agency requires that the radio altimeter remains powered in the scenario considered, included emergency if applicable. There may be emergency scenarios where the main electrical generation is lost and it is preferable not to automatically power the radio altimeter, because it is not a critical system and the battery must be preserved in order to support continued safe flight and landing.

Furthermore, it is reminded that a radio altimeter only provides accurate information over flat surfaces, as opposed to congested areas covered with buildings and other obstacles. There is therefore no guarantee that its availability contributes to reduce the risk associated with an autorotation carried out over an area covered with obstacles like urban areas.

The Agency therefore considers that it is not appropriate to universally mandate an automatic powering of the radio altimeter in emergency situation.

The Agency considers that current certification specifications contain adequate provisions to ensure that, when equipment such as the radio altimeter is installed, it can be readily available and used by the flight crew without creating excessive workload in all phases of flight, including emergency situations

AAIB Assessment – Not Adequate - Closed

RESPONSE HISTORY

Response received:

15 February 2016

The Agency is reviewing the current regulatory provisions related to radio altimeter powering and will determine if these provisions are adequate or need to be improved to ensure an adequate level of safety.

AAIB Assessment – Partially Adequate - Open

Response received:

29 December 2015

EASA acknowledges receipt of this Safety Recommendation. Please advise that it is under consideration and that the outcome will be communicated to you in due course.

AAIB Assessment – Not Adequate - Open

**Eurocopter (Deutschland)
EC135 T2+, G-SPAO**

Glasgow City Centre

29 November 2013

Accident

Safety Recommendation 2015-031

It is recommended that, when the Civil Aviation Authority require a radio altimeter to be fitted to a helicopter operating under a Police Air Operator's Certificate, it also stipulates that the equipment is capable of being powered in all phases of flight, including emergency situations, without intervention by the crew.

Date Safety Recommendation made:

19 October 2015

LATEST RESPONSE

Response received:

4 December 2015

The CAA accepts this recommendation and will review the requirements for the fitment of radio altimeters to helicopters operating under a Police Air Operator's Certificate, and where so required and subject to an impact assessment will amend the specifications to include the capability for the equipment to be powered in all phases of flight, including emergency situations, without intervention by the crew. Review and assessment for amendment to the specifications is expected to be completed by 3rd Quarter 2016.

AAIB Assessment – Adequate - Closed

RESPONSE HISTORY

N/A

Safety Recommendation 2015-032

It is recommended that the Civil Aviation Authority requires all helicopters operating under a Police Air Operators Certificate, and first issued with an individual Certificate of airworthiness before 1 January 2018, to be equipped with a recording capability that captures data, audio and images in crash-survivable memory. They should, as far as reasonably practicable, record at least the parameters specified in The Air Navigation Order, Schedule 4, Scale SS(1) or SS(3) as appropriate. They should be capable of recording at least the last two hours of (a) communications by the crew, including Police Observers carried in support of the helicopter's operation, and (b) images of the cockpit environment. The image recordings should have sufficient coverage, quality and frame rate characteristics to include actions by the crew, control selections and instrument displays that are not captured by the data recorder. The audio and image recorders should be capable of operating for at least 10 minutes after the loss of the normal electrical supply.

Date Safety Recommendation made:

19 October 2015

LATEST RESPONSE

Response received:

4 December 2015

The CAA accepts this recommendation and, subject to an impact assessment and liaison with the police operators, will require all helicopters operating under a Police Air Operators Certificate with a maximum take-off mass (MTOM) of more than 2,730 kg and first issued with an individual Certificate of Airworthiness before 1 January 2018, to be equipped with a recording capability that captures data, audio and flight deck images in crash-survivable memory. In order to put any change into effect, the CAA will need to amend General Exemption E4111 for the fitment of recorders to helicopters with a MTOM between 2,730 and 3,175 kg and the requirements for police helicopters with a MTOM greater than 3,175 kg. The CAA will work with the affected operators to agree a means of compliance for individual types in line with ICAO standards and recommended practices and ensure that appropriate protection provisions are afforded for image recordings. The CAA will also review, and amend as necessary, associated CAPs and CAA Specifications, for flight recorders. Introduction of amended requirements is expected to be completed by 3rd Quarter 2016.

AAIB Assessment – Adequate - Closed

RESPONSE HISTORY

N/A

Safety Recommendation 2015-033

It is recommended that the Civil Aviation Authority requires all helicopters operating under a Police Air Operators Certificate, and first issued with an individual Certificate of Airworthiness on or after 1 January 2018, to be fitted with flight recorders that record data, audio and images in crash-survivable memory. These should record at least the parameters specified in The Air Navigation Order, Schedule 4, Scale SS(1) or SS(3), as appropriate. They should be capable of recording at least the last two hours of (a) communications by the crew, including Police Observers carried in support of the helicopter's operation, and (b) cockpit image recordings. The image recordings should have sufficient coverage, quality and frame rate characteristics to include control selections and instrument displays that are not captured by the other data recorders. The audio and image recorders should be capable of operating for at least 10 minutes after the loss of the normal electrical supply.

Date Safety Recommendation made:

19 October 2015

LATEST RESPONSE

Response received:

4 December 2015

The CAA accepts this recommendation and, subject to an impact assessment and liaison with the police operators, will require all helicopters operating under a Police Air Operators Certificate and first issued with an individual Certificate of Airworthiness on or after 1 January 2018, to be equipped with a recording capability that captures data, audio and images in crash-survivable memory. To achieve this in the suggested timescale, the CAA will consider making a Direction to that effect but will also, as part of a wider review of the Air Navigation Order (ANO), prepare amendments to the flight recorder requirements that align with ICAO standards and recommended practices and European standards including the appropriate protection provisions for image recordings. The CAA would anticipate this change being addressed within the planned 2016 ANO amendment cycle.

AAIB Assessment – Adequate - Closed

RESPONSE HISTORY

N/A

**Eurocopter (Deutschland)
EC135 T2+, G-SPAO**

Glasgow City Centre

29 November 2013

Accident

Safety Recommendation 2015-034

It is recommended that the Civil Aviation Authority considers applying the requirements of AAIB Safety Recommendation 2015-032 and AAIB Safety Recommendation 2015-033 to State aircraft not already covered by these Safety Recommendations.

Date Safety Recommendation made:

19 October 2015

LATEST RESPONSE

Response received:

4 December 2015

The CAA accepts this recommendation and will consider whether the requirements of AAIB Safety Recommendation 2015-032 and AAIB Safety Recommendation 2015-033 should be applied to civil registered State aircraft not already covered by these Safety Recommendations and in particular the suitability of the introduction and/or retrofitting of image recorders. Due to their size, all current civil Search and Rescue helicopters are fitted with flight data recorders and cockpit voice recorders. The CAA anticipates determination of this issue by 3rd Quarter 2016.

AAIB Assessment – Adequate - Closed

RESPONSE HISTORY

N/A

Safety Recommendation 2015-035

It is recommended that the European Aviation Safety Agency mandate the ICAO Annex 6 flight recorder requirements for all helicopter emergency medical service operations, regardless of aircraft weight. The last two hours of flight crew communications and cockpit area audio should be recorded. The cockpit area audio recording should continue for 10 minutes after the loss of normal electrical power.

Date Safety Recommendation made:

19 October 2015

LATEST RESPONSE

Response received:

15 February 2016

This safety recommendation will be considered within the framework of rulemaking task RMT.0271 'In-flight recording for light aircraft'. The associated Notice of Proposed Amendment is expected to be published in the Summer of 2016.

AAIB Assessment – Partially Adequate - Open

RESPONSE HISTORY

Response received:

29 December 2015

This safety recommendation will be considered within the framework of rulemaking task RMT.0271 'In-flight recording for light aircraft', which was launched by EASA on 25 July 2014 with the publication of the associated Terms of Reference.

AAIB Assessment – Partially Adequate - Open

Safety Recommendation 2015-036

It is recommended that the European Aviation Safety Agency mandate image flight recorder requirements for all helicopter emergency medical service operations, regardless of aircraft weight. The image recordings should have sufficient coverage, quality and frame rate characteristics to include actions by the crew, control selections and instrument displays that are not captured by a data recorder. The recording should be of the last two hours of operation, including at least 10 minutes after the loss of normal electrical power to the flight recorder

Date Safety Recommendation made:

19 October 2015

LATEST RESPONSE

Response received:

29 December 2015

A consultation with Contracting States, conducted by the International Civil Aviation Organization (ICAO) in 2009 and 2010, revealed that most States had not implemented any legislation to protect the contents of cockpit image recorders from improper use, and that many States were concerned that safety data collection might be adversely impacted by the misuse of image recordings.

Legal protection of cockpit image recorder data at a global level through ICAO Standards and Recommended Practices is an essential prerequisite to mandating the carriage of cockpit image recorders. In addition, while the protection of cockpit image recorders in the context of a safety investigation is addressed in ICAO Annex 13, there is no equivalent ICAO provision addressing their use in day-to-day operations.

ICAO is currently considering this during work to establish standards on the carriage of cockpit image recorders and the legal protection of the associated data (refer to ICAO State Letter of AN 6/1.2-15/13 of 24 March 2015, containing proposed amendments to ICAO Annex 6 and Annex 13). EASA is actively engaged with ICAO in this work.

While a mandatory action is for the time inappropriate given the insufficient legal protection of cockpit recorder data at the global level, voluntary initiatives are already taking place with manufacturers fitting their helicopter with cockpit image recorders.

AAIB Assessment – Not Adequate - Closed

RESPONSE HISTORY

N/A