ECA Position Paper
Specific Geographical Area

1. Introduction

Authorities recognise that helicopters are difficult aircraft to fly. They also reccognise that HEMS operations in particular are challenging as they are performed at low levels and outside controlled airspace at off–field landing sites, often without radar coverage and under special circumstances and difficulties characteristic of the type of operation itself. This challenging nature is further excacerbated during the night.

This is also recognised in the EASA Regulation on Operations (Regulation 965/2012):

> SPA.HEMS.130 Crew requirements
>
> (2) Night flight. The minimum crew by night shall be:
> (i) two pilots; or
> (ii) one pilot and one HEMS technical crew member in specific geographical areas defined by the operator in the operations manual taking into account the following:
>
> (A) adequate ground reference;
> (B) flight following system for the duration of the HEMS mission;
> (C) reliability of weather reporting facilities;
> (D) HEMS minimum equipment list;
> (E) continuity of a crew concept;
> (F) minimum crew qualification, initial and recurrent training;
> (G) operating procedures, including crew coordination;
> (H) weather minima; and
> (I) additional considerations due to specific local conditions.

The basic crew composition for night flights is thus two fully qualified pilots. There is some alleviation for specific geographical areas (SGA) to operate with one pilot and one HEMS technical crew member but strict conditions apply. These conditions are clearly aimed at limited geographical areas where the pilot is familiar with landmarks and local meteorological conditions.

This allowance for a SGA makes sense in the case of a HEMS-mission, which started at daylight and is delayed into darkness and can be finished by the day-flight-crew in an area which is usually well known by the crew, because the mission will normally be in the usual operating area of the crew.

Recently, some countries have extended the “SGA” to a range which is clearly against the purpose and the spirit of the rule and has to be considered unsafe.

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For example Switzerland issued approval to use the whole territory of the country plus the southern part of Germany as a “SGA”, with the consequence that Switzerland HEMS helicopters can operate in this area single pilot at night. The result of this practice is, that in Swiss even HEMS helicopters for night operations are only manned single pilot regularly.

Germany and Austria have followed suit and extended their “SGA” over their whole territory as well.
If this practice continues, safety becomes compromised.

2. Reasoning

The definitions of Regulation 965/2012 describe a ‘local helicopter operation’ as a commercial air transport operation of helicopters with a maximum certified take-off mass (MCTOM) over 3 175 kg and a maximum operational passenger seating configuration (MOPSC) of nine or less, by day, over routes navigated by reference to visual landmarks, conducted within a local and defined geographical area specified in the operations manual.

The Guidance Material further clarifies the requirement in SPA.HEMS.130:

> GM1 SPA.HEMS.130(e)(2)(ii) Crew requirements
> SPECIFIC GEOGRAPHICAL AREAS
> In defining those specific geographical areas, the operator should take account of the cultural lighting and topography. In those areas where the cultural lighting an topography make it unlikely that the visual cues would degrade sufficiently to make flying of the aircraft problematical, the HEMS technical crew member is assumed to be able to sufficiently assist the pilot, since under such circumstances instrument and control monitoring would not be required. In those cases where instrument and control monitoring would be required the operations should be conducted with two pilots.

An SGA extended to a whole country will always include areas where navigation “by reference to visual landmarks” is not possible at night especially when a flight is conducted under minimal visual conditions.

The SGA is a special case and not intended to open the airspace for general single-pilot-night operations. This is clarified in the definition of ‘local helicopter operations’ where the words “local” and “defined” indicate that this area has to be a restricted zone with limited extensions in which flights by the related flight crew are limited at night.

It is also clear from the guidance material that if the cultural lighting and topography would require instrument and control monitoring, operations have to be conducted with two crew members. If an SGA covers a complete country lighting conditions and topography will thus demand a crew of two.

The biggest safety issues for night flying are loss of control in flight, controlled flight into terrain and spatial disorientation. The main mitigation measure against this is to have multicrew operations so that a pilot can take over control if the pilot flying has lost control e.g. due to spatial disorientation.

Without a trained crew member who recognises the situation very quickly and reacts swiftly, the crew of the helicopter has little chance to recover from the situation.

3. Conclusion

The concept of specific geographical are was established to allow single pilot daytime HEMS operations to return to their base after sunset. Extending the SGA to a whole country goes against the principles and philosophy of the SGA and increase the risk of night time HEMS operations.

ECA urges:

- EASA to define the term “Specific Geographical Area” to give local authorities a solid guide what the intention of this rule is and to prevent misuse;
- Local authorities to reduce the “Specific Geographical Areas” to a maximum range of 50 to 70 NM around the base, to which the crew is familiar – depending on operation and only to be used for finishing missions;
- That HEMS-flights at night (darkness) cannot be conducted with single-pilot only operations.

ECA strongly recommends that commercial operations at night with multi-engine helicopters are performed with dual-pilot configuration only.

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