Australian Government
Civil Aviation Safety Authority

SUMMARY OF CONSULTATION

Part 133 of CASR and associated MOS for air transport operations – rotorcraft

Civil Aviation Safety Amendment (Part 133) Regulation 2018 and
Part 133 Manual of Standards Instrument 2018

Date	January 2019
Project number	OS 99/45
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Overview

CASA published a consultation draft of the proposed Part 133 of CASR (Part 133) and the Part 133 Manual of Standards (MOS) for air transport operations for rotorcraft on the CASA Consultation Hub from 23 July to 21 August 2018.

This consultation activity, and separate consultation activities for Parts 121 and 135 of CASR, also involved consultation on the proposed Part 119 of CASR (Part 119). As feedback on Part 119 was spread across these three activities, CASA will publish a dedicated Part 119 Summary of Consultation document. This document will focus solely on Part 133 and the Part 133 MOS.

The consultation provided an overview of the main changes to the current Regulations, Civil Aviation Orders (CAOs) and various exemptions for helicopter charter and regular public transport. It outlined the new legislation and specifically identified the regulations or MOS content for each of the main changes. Feedback was sought on the policy content and structure of the proposed regulations and MOS.

In 2017 the CASA Director of Aviation Safety established the Aviation Safety Advisory Panel (ASAP). This Panel (made up of industry representatives), functions under its terms of reference as an industry advisory panel on the regulatory development process. In June and October 2018, the panel convened a technical working group (TWG) to evaluate drafts of the Part 119 regulations, the Part 133 regulations and the Part 133 MOS.

The Part 133 TWG made several recommendations regarding issues in the proposed legislation, the majority of which CASA sought to address in the initial consultation draft and in the development of the final regulatory package for Part 133. Feedback on the proposed regulations from previous consultations was also considered and incorporated into the 2018 consultation drafts. A small number of TWG recommendations were still under active consideration by CASA prior to the 2018 consultation draft release. However, most of these now have also been considered and, where necessary, are also included in the final rule.

This Summary of Consultation is a summary of the main themes that emerged from review of the consultation responses.

Respondents

CASA received a total of nine initial submissions and one late submission bringing the total to 10. Six respondents consented to having their comments attributed to them for publication on the CASA website.

Industry

Representative	Organisation
Mike Watson	Aerial Agriculture Pty Limited t/a Fleet Helicopters and Commercial Helicopters (Aust) Pty Ltd
Gregory Ohlsson	Careflight
Richard Nest	Northern NSW Helicopter Rescue Service
Lachlan Gray	The Australian Federation of Air Pilots

Representative	Organisation
Colin Gunn	Toll Helicopters/Helicorp Pty Ltd (response received 28 August 2018)
Individuals	
Daniel Tyler	

Key proposals

The Summary of Proposed Change - Australian air transport operations - rotorcraft, published in July 2018, outlined the following key proposals:

- Rotorcraft conducting air transport operations under the instrument flight rules (IFR) domestically and under any flight rules for international operations will be required to be operated in accordance with a Minimum Equipment List (MEL).
- The flight preparation and planning requirements for night, IFR and for day visual flight rules (VFR) flight beyond 50Nm from the departure helicopter landing site.
- The requirements for operators to ensure helicopter landing sites are safe for their intended operations.
- ICAO compliant fuel planning and fuel use rules (however the ICAO requirement for take-off alternate aerodrome standards has been omitted for rotorcraft operations).
- The introduction of the flexibility associated with the concept of operators specifying a maximum operational passenger seating configuration and how this applies to performance criteria for rotorcraft air transport operations.
- Requirements for operators to outline procedures for IFR take-off minima and authorised instrument approach use, including requirements for instrument approaches to off-shore installations.
- The introduction of a set of performance standards, set out in the Part 133 MOS which outline a performance code for operations based on passenger numbers and type of operation being carried out.
- The introduction of performance classes to Australian helicopter operations, including performance class 2 with exposure operations for approved operators and rotorcraft.
- The inclusion of a requirement for flights over populous areas to not create undue hazard to persons on the ground and the specification of additional pilot training and helicopter equipment requirements for such operations.
- Provisions specifying the minimum equipment, instrument and system standards for day VFR, night VFR and IFR operations. This includes a requirement for night VFR passenger transport operations to be equipped for IFR flight. Helicopter terrain awareness and warning systems (HTAWS) has been incorporated for IFR passenger transport with a maximum operational passenger seat configuration of >9 and for all IFR medical transport operations.
- The inclusion of additional criteria for flights over water including requirements for the wearing of life jackets and search and rescue (SAR) response and survivability considerations for flights over water for rotorcraft with limited stay up capability following an engine failure.

- The outlining of an operator's and a flight crew members obligation for training and checking and recency requirements for air transport operations based on an operational complexity model.
- The introduction of simulator training requirements for specified rotorcraft.
- The introduction of a transportable (between operators), underwater escape training (UET) qualification for crew members as an element of emergency proficiency training for operators who operate over water.
- Specification of the minimum crew training and checking for aircrew and other crew members.
- The ability for operators to use certified Part 142 of CASR providers for their training and checking requirements provided they do so to the requirements of the Part 133 air operators certificate (AOC) holder's standard operating procedures (SOPs) and exposition.

Key feedback

The respondent's raised a number of matters in their feedback, some of which were discrete and others which outlined issues common to each respondent and CASA has provided comprehensive feedback to each of these. The feedback, individual CASA responses and an outline of the CASA future actions are contained at Appendix A. The responses received did not focus on any specific key proposal and as such, CASA considers, that in combination with the feedback received from the ASAP TWG, there is broad industry support for the key proposals and the introduction of Part 133.

Notice of final rulemaking

CASA has now proceeded to make Part 133 of CASR and the Part 133 Manual of Standards. The effective date for this legislation is planned for 25 March 2021 except for any specifically identified provisions that may require a delayed commencement date to allow the industry more time to adapt. CASA does not intend to have a transition period for these regulations.

Future direction

Overall, respondents have supported the proposals in Part 133 and its MOS and the feedback indicates the policies contained therein are implementable for both CASA and the industry. CASA will amend the regulations and manual of standards as identified in the "CASA actions" in Appendix A.

Appendix A

Consolidated summary of comments received, CASA response and planned actions

Response 1

This response was submitted by Richard Nest from the Northern NSW Helicopter Rescue Service and Greg Ohlosson from Careflight.

Comment 1-1

Definitions - Crew Member:

By including "safety of aircraft's passengers" into the definition of a crew member this could be taken as meaning patients under the care of medical personnel.

Suggest that medical personnel who are just taking care of patients are somehow excluded from this definition. Medical Transport Specialists, whom additionally carry out activities related to the safety of the aircraft (winching etc) should remain under the definition of crew member.

CASA response

The definitions proposed for inclusion in the CASR are written under the rule making powers of the *Civil Aviation Act 1988* and as such the phrase “safety of the aircraft’s passengers” relates to the aviation safety rather than the medical wellbeing of the patient. This aviation safety link is further emphasised by the definition including that the crew member must be a person authorised by the operator of the aircraft to carry out a specified function during flight time.

“Safety of the aircraft’s passengers” is an essential element of one of the many descriptors contained within the definition of *crew member*. A notable example is that this element ensures that cabin crew, who perform this descriptor as a fundamental element of their role, are members of the crew for a flight.

CASA action

No change to be made.

Comment 1-2

Definitions - Medical Transport Specialist:

This definition perhaps needs more clarity. When it says "carrying out specified functions ... relating to a medical transport operation" it is not clear if this includes looking after a patient or something more aviation-related. In our sector there is a clear difference in the knowledge and skill requirements for a medical person who just looks after patients versus one who conducts winch operations and/or hover exit/entry operations. Perhaps revisit the use of the term Medical Passenger for the person who just looks after patients. This obvious difference will have a large impact in the training and checking sphere.

CASA response

The definition of *medical transport specialist* states that this person is a crew member. Therefore, the earlier explanation regarding the difference of duties between a crew member and a doctor caring for a patient applies equally to this feedback.

In essence, and using the example provided in the industry comment, the medical person who “just looks after patients” would not have to be a medical transport specialist or an air crew

member unless the type of operation being conducted is constrained to only carrying crew members. There is overlap between the medical transport specialist and the air crew member and it is up to operator's which category they utilise for their operational purposes.

The definition of *medical transport specialist* was kept generic to allow operators to outline in their exposition the specified function that would bring a person into the medical transport specialist role. This could be winching, hover exits or something as simple as the ability to open and close the rear doors of the aircraft. CASA is of the view the operator is best placed to determine, considering the nature of their operations, the functions that require a person to do the additional training to be a medical transport specialist, rather than just medical personnel carried on the aircraft to look after patients.

This provides flexibility to operators as neither option is mandated by the legislation and it is up to the operator, and if necessary the contractor, to provide clarity on how they intend to categorise persons on the aircraft.

CASA action

No change to be made.

Comment 1-3

133.105:

> A Medical Transport Specialist comes under the definition of crew member. However, this regulation does not allow them to conduct any activity not associated with the safe operation of the aircraft. I would suggest we need to allow them to look after patients.

CASA response

CASA concurs that the provision needs additional flexibility.

CASA action

The applicable regulation will be amended to provide flexibility for medical transport specialists to provide medical care with appropriate safeguards regarding the safe operation of the rotorcraft.

Comment 1-4

> Part 133 MOS Para 22:
>
> Mention is made of external load operations in the context of urgent medical transport operations. It is unclear the difference between that and a SAR operation.
>
> Practically we can get tasked by various government agencies to search for, and winch "rescue" injured and uninjured persons. Are all these missions within Part 133 or will some be in 138 - how are they differentiated? Presumably training for medical transport external load operations will be under Part 138?

CASA response

In the context of the comment, the primary difference between a medical transport operation under Part 133 of CASR and a search and rescue (SAR) activity under Part 138 of CASR is that the location of the person who will be the subject of the winch is known in advance. By their

nature, the primary purpose of search and rescue flights is to search for persons and, if they are found, rescue them by whatever is the safest means – either land and board the aircraft or winch them onboard. These persons may or may not be injured and the definitions of SAR and medical transport have been set up to ensure a SAR flight does not become re-categorised just because an injured person is brought on board the aircraft.

Additionally, a medical transport operation is required to have as a primary purpose the carriage of one of four types of things. One of these is “medical patients”. Inherent in this definition is that in order to conduct a medical transport operation there must be a clear expectation that the person will be a medical patient, as opposed to a person, for example, that was fishing from some rock outcroppings and has been stranded and is in danger but is not yet injured.

CASA provided the ability to conduct winching operations for medical transport operations as at some locations it will be necessary, or safer, to conduct a winching activity instead of landing the rotorcraft.

Training for Part 133 generally is not actually a Part 133 activity as training for an air transport operation is not an air transport operation itself. This is the same as in the current rules whereby training for a charter operation is not a charter operation. In relation to external load activities, as these are linked in Part 133 to the conduct of an air transport operation, training cannot occur under the authority of Part 133. Winching (when not conducted as part of an air transport operation) is proposed to be defined as an external load operation under Part 138 of CASR and therefore training for this activity would need to be conducted under a Part 138 certificate.

CASA action

No change to be made.

Comment 1-5

> Requiring PC1 above 300ft following an urgent medical transport external load sets a higher standard for survey of relevant obstacles compared to PC2 as described in MOS Para 58(6), and severely complicates the practicalities of urgent medical transport external loads. Suggest delete MOS 22(1)(b)(i) and modify sub-para (ii) to indicate "...clear any obstacles in the flight path until at the minimum altitude for flight". This keeps it simple but retains the intent.

CASA response

CASA concurs with this suggested amendment for 133.MOS 22(1)(b)(ii).

CASA action

CASA will amend the relevant MOS provisions.

Comment 1-6

Part 133 MOS Para 37(2):

> Measuring exposure time from commencement of forward motion is wrong. When you are facing exposure you will choose to either take-off vertically to a height which allows a safe flyaway or you will accelerate immediately until a speed which allows a safe flyaway. The choice should be made on the basis of the highest assessed risk, and not just be limited to one technique. Even for forward motion it does not account for the

fact that the first 100m may allow a safe rejected take-off but not so beyond that distance. Suggest wording in line with the exposure needing to start from the earliest point of: forward motion where a suitable forced landing area can no longer be achieved, or; entry into the H-V envelope.

CASA response

CASA concurs with the view that this measurement of exposure is too prescriptive as it was based on early versions of the performance code and the operations with exposure concept. It was also supported by the view that many vertical departures in the more powerful modern helicopters which will be capable of being approved for such operations were in fact able to operate in performance class 2 during this component of the take-off and were in that case not exposed until forward movement commenced.

CASA action

CASA will amend subsection (2) of Part 37 of the MOS to adopt a performance based legislative approach to the context of when exposure begins.

Comment 1-7

MOS Para 38(b):

This could be open to interpretation with some thinking HOGE weight limit will achieve this, and others thinking something less. Suggest a bit more guidance to indicate that the aircraft HOGE weight limit does not provide sufficient power margin to ensure a safe acceleration from a vertical take-off profile. We use 97% of HOGE by way of an example.

CASA response

The formulation of the MOS provisions is conditional on the weight allowing the aircraft to accelerate from a vertical take-off profile, therefore the HOGE weight chosen must allow for this acceleration requirement.

CASA agrees that additional guidance will be useful for industry.

CASA action

CASA has added this matter to the list of guidance material needed to comprehensively explain rotorcraft operations with exposure.

Comment 1-8

MOS Para 58:

Table of relevant obstacles: The rate of divergence from the inner edge for Night/IFR is stated as being 15%. However, this divergence is wider than the 12.5% rate of divergence used at most runways (CN3/4). This means that an operator could not operate PC1 or PC2 night/IFR from any registered aerodrome without first doing their own survey. It would save a huge cost to industry if the obstacle surveys conducted at registered aerodromes were able to be used by helicopters.

Could we reduce the Night/IFR divergence requirement back to 12.5%?

CASA response

CASA agrees with the broad theme of the feedback that rotorcraft operators should be able to use the already surveyed obstacle protection in a runway aerodrome environment.

The rate of divergence for CN3/4 runway starts at the end of the runway or the end of the clearway (if any) for the runway and therefore the splay impacts are dependent on where the rotorcraft commences its take-off manoeuvre.

If the take-off is not from the upwind end of runway where the flight integrates with the obstacle splay immediately (as occurs in a take-off from a minimum dimension heliports' FATO), then the helicopter will be protected from obstacles by the runway width, the runway strip width and transitional surfaces of the aerodrome, whilst it is flying along the runway centreline.

Alternatively, if the take-off uses the full length of the runway the helicopter is also likely to be well above the obstacle limit surface by the upwind threshold, so the obstacle environment is managed in both cases and additional obstacle surveys should not be needed from such locations.

CASA recognises that many helicopter departures from aeroplane-based runway environments do not utilise the full length of the runway and it is not intended that the legislation limit operations from or into these locations.

CASA action

CASA will amend Part 58 of the MOS in relation to the use of surveyed aerodrome obstacle environments.

Regarding the requirement for 15% divergence, as this is the ICAO Annex 14 Volume II heliport-based divergence and should be used for heliports and also aerodromes which are not certified or registered aerodromes with OLS protected obstacle environments. CASA considers that this requirement remains appropriate for these heliport/aerodrome type of operations.

Comment 1-9

> Sub-para 2 allows sub-para 3 or 5 to be applied, but that is a departure from the ICAO intent where para 5 figures are meant to provide the maximum width of the required splay, not an alternative boundary area for obstacles. Because of this the MOS is now silent on the maximum width, so the splay angles run for the entire climb stage of flight. Is this the intent? This might be an error and worth a review of previous drafts.

CASA response

To give greater flexibility in the determination of relevant obstacles, CASA drafted subsection (5) to operate as an alternative boundary where a pilot can determine the obstacle is clearly outside of these distances as well as acting as the limiting maximum width for the obstacle accountability area (splay).

The current wording of subsection (5) implies that an obstacle is not relevant if it is located beyond these distances, and therefore by implication this means the survey need not extend beyond these distances. It is acknowledged that the provision could provide greater clarity.

CASA action

CASA will add a specific clarifying provision to ensure the policy outcome is clearly outlined.

Comment 1-10

Sub-para 6(a) does not allow IMC entry below LSALT. Given the vast majority of hospital and other commercial use helipads are yet to have formal surveys this IMC restriction could be very onerous. You could tack on the end of this sub-para - "unless the pilot uses an operator defined procedure for obstacle avoidance during any IMC climb to MSA/LSALT".

CASA response

CASA agrees with the suggestions outlined in the feedback.

CASA action

CASA will amend the relevant MOS provision to achieve the intent outlined in the feedback.

Comment 1-11

MOS Para 64:

We cannot see the necessity to have the proviso of having an alternative obstacle avoidance procedure. Meeting the requirements of 60(3) and 60(4) should be sufficient and easy enough for PC2 operations. This ensures PC1 level obstacle avoidance during the climb (ICAO intent). This may have slipped in because of a previous interpretation that 60(5) applies to the initial climb out where in fact it only applies to the take-off phase.

CASA response

CASA agrees with the position outlined in the feedback.

CASA action

CASA will amend Part 64 of the MOS to remove the alternative obstacle avoidance procedure.

Comment 1-12

MOS 66 Para 3(b):

As per above comments, suggest conduct in line with MOS Para 60(3) and (4).

CASA response

CASA agrees with the position outlined in the feedback.

CASA action

CASA will amend Part 66 of the MOS to appropriately delete the alternative obstacle avoidance procedure.

Comment 1-13

Part 133.P.3 - Medical Transport Specialists:

Although comfortable with the training and checking requirements for Medical Transport Specialists, this is only the case if CASA is talking about persons involved in winching, rappelling or hover exit/entry operations. If medical personnel only involved in patient care come under this umbrella, then these requirements are too onerous.

CASA response

Refer to the CASA response to comments 1-1 and 2-2.

This training requirement is activated if the operator wishes the medical personnel on the aircraft to be members of the crew as medical transport specialists.

As the operator determines their functionality from an aviation safety perspective this training could be in winching, hover exits or something as simple as the ability to open and close the rear doors of the aircraft. CASA has decided that the operator is best placed to determine whether the person should be allocated duties that would trigger the requirement to conduct the additional training to be a medical transport specialist member of the crew, rather than just medical personnel carried on the aircraft to look after patients.

Medical personnel carried on the aircraft just to look after patients are not members of the crew in such circumstances and therefore do not need this training. These personnel may be carried on the aircraft due to the authority of the Australian Air Transport AOC which will under the CASRs be issued for medical transport operations.

CASA action

No change to be made.

Response 2

This response was submitted by the Australian Federation of Air Pilots.

Comment 2-1

Qualifications of Pilots - NTS/HF

The AFAP finds that there are inconsistencies in the draft CASR Flight Operations Parts in relation to an operator's responsibilities to ensure that flight crew have completed the required Human Factors (HF) and Non-Technical Skills (NTS) training as per the draft CASR Part 119 (Division E.2—Training and assessment in human factors principles and non-technical skills).

In the current draft Part 121, there exists this requirement:

121.715 (2) (d) the pilot has successfully completed the aeroplane operator's training in human factors principles and non-technical skills relevant to the duties of a pilot in command

We believe that this Part 121 HF/NTS requirement on operators is wholly consistent with Division E.2 of CASR 119 but note that it isn't consistently applied to all the crew where it is equally applicable. This obligation on operators is just as applicable in rotorcraft operations under Part 133 but isn't found within Part 133. Part 119 Division E.2 outlines that crew, and other operational safety-critical personnel, must be trained in HF and NTS. Given the increasing recognition of the role HF/NTS has in enhancing aviation safety and mitigating risks, the AFAP believes that the clearly stated

obligation, related to HF/NTS qualification requirement found in Part 121, should also be included in the relevant sections within Part 133.

Understanding that Part 133 involves operations for single or multi crew operation, this should be reflected in the qualifications required for all the various crew, including cabin crew and air crew members. Thus we make specific note that these HF/NTS training and qualification obligations for operators should also be reflected in Subpart 133.P—Crew other than flight crew.

CASA response

CASA considers that regulation draft 121.715(2)(d) is not needed as regulation 119.205 of CASR adequately addresses these matters. This avoids additional regulatory material for no additional safety benefit.

CASA action

Paragraph 121.715(2)(d) of CASR to be deleted.

Comment 2-2

Qualifications of Pilots – Ratings and Endorsements

The AFAP finds that the references to Part 61 qualifications found within Part 133 are inconsistent and currently insufficient. The AFAP believes that it is correct to clearly provide an obligation on operators that they must ensure that crew operating their aircraft are authorised and qualified to do so, as per Part 61. Currently though, the draft CASR Flight Operations Parts (Parts 121, 133 and 135) provide differing and inconsistent obligations for this responsibility, and this differs to each other Part and within the same Part.

The following table outlines and displays the inconsistencies found in the draft CASR regulations on the matter of an operator's obligations to ensure that a pilot assigned to duty for the flight, is authorised under Part 61 to pilot the aeroplane or rotorcraft for the flight:

Operator's Obligations to ensure that a Pilot is qualified as per Part 61			
Flight Crew Rank	Part 121 Sub Reg reference	Part 133 Sub Reg reference	Part 135 Sub Reg reference
PIC	Nil Exists	Yes, 133.685(2)(d)	Yes 135.760(2)(d)
Co-pilot	Yes 121.720	Nil Exists	Nil Exists

As we can see here, there even exists inconsistency in the CASR Flight Operations Parts between whether it is the PIC or Co-pilot (including Cruise relief co-pilots) regarding the Part 61 qualifications obligation on operators.

CASA response

CASA notes the identification by the AFAP of the drafting differences between Part 121, Part 133 and Part 135 in this topic area. CASA will seek to, in an appropriate manner, maximise

consistency of regulatory expression across the air transport CASR parts. A key determinant in this approach will be to reduce regulatory overlap and repetition of requirements.

Operator responsibilities regarding the qualifications of their flight crew members are covered in Part 133 by many provisions in Subpart 133.N, not just 133.685, as follows:

a. 133.670 Composition, number, qualifications and training – for Part 61 qualification specifically 133.670(2)(d) which specifies each flight crew member must hold, and be authorised under Part 61 to exercise the privileges of, a commercial pilot licence or an air transport pilot licence for the flight;
b. 133.675 Competence – outlines a requirement for the operator to ensure general competency to perform assigned duties before assignment.
c. 133.685 Pilot in Command must be qualified. This provision outlines the operator commits an offence if they assign a pilot to a duty as pilot in command and the pilot is not qualified in accordance with 133.685(2). 133.685(2)(d) states "the pilot is authorised under Part 61 to pilot the rotorcraft for the flight as pilot in command".
d. 133.695 Co-pilots must be qualified. This provision outlines the operator of a rotorcraft for a flight commits an offence if the operator assigns a pilot to duty as co-pilot of the rotorcraft for the flight; and the pilot is not qualified under subregulation (2) as co-pilot for the flight. 133.695(2) outlines the pilot is qualified if they hold the appropriate licence (refer 133.670(2)(d)), type or class rating, completed MCC, hold an instrument rating for IFR operations and they have completed the operators supervised line training for the rotorcraft.

Note: 133.695 does not refer to co-pilot qualifications under Part 61 as co-pilot ratings and qualifications do not exist in that Part for the aircraft covered by Part 133.

CASA considers that this building block approach ensures that the operator responsibilities for flight crew qualifications are adequately meet. The Part 121 issues will be addressed separately by the Part 121 project team.

CASA action

CASA will consider this issue further across Parts 121, 133 and 135.

Comment 2-3

Cabin Crew – Number Required

The AFAP believes that the Part 133 sub regulations related to the required number of Cabin Crew (when required) could be made clearer. Sub regulation 133.790 (3) (a) provides that the requirement and numbers of cabin crew required are outlined in the 133 MOS. However, the Part 133 MOS section on the number of Cabin Crew required for various operations is absent. The relevant MOS section (133 MOS Chapter 7 — Crew other than flight crew) only relates to the training and checking requirements and provides no details of when cabin crew are required on Rotorcraft or the number when they are required.

We note that Part 91 sub regulation 91.1460 and 91.1465 does provide some details on this matter. However, we believe that the reference to the Part 133 MOS instead of the relevant Part 91 sub regulations is problematic. We propose that either this aspect of the Part 133 sub regulations should be rectified to lead readers to the relevant

section in Part 91 or that there be an appropriate amendment to the relevant section of the 133 MOS.

CASA response

The table in proposed regulation 133.005 outlines that subpart 133.P disapplies subpart 91.P. Therefore, legally, subpart 91.P does not apply to an operation conducted under Part 133. The lack of equivalent provisions to subpart 91.P in the Part 133 MOS is an oversight and CASA agrees that these provisions are necessary.

CASA action

CASA will amend the MOS to include the appropriate cabin crew provisions equivalent to the aviation safety outcomes contained in subpart 91.P and adapted for rotorcraft.

Response 3

This response was submitted by Dan Tyler.

Comment 3-1

Regarding the proposed CASR Part 119 and 133 consultation, I have read the submission by Hunter Westpac Rescue Helicopter Service and concur with all points made - especially the point about confusion as to when an operation is a SAR operation and when it is a medical transport external load operation. After 35 years of experience flying SAR and air medical helicopters in Australia, I can't see how two distinct regulatory regimes can operate effectively in the area of helicopter winch rescue. All winch rescue operations should be aerial work. If a person - whether injured or not - is somewhere they don't want to be then removing them is a rescue operation.

I think that trying to create a sub-set of transport category operations out of the ambulance operations that were previously aerial work is fundamentally flawed and will make air medical transport much more expensive. Literally dozens of clinical studies have documented beyond doubt the value of helicopter medical transport in improving both morbidity and mortality for time-critical patients. Has CASA ever attempted to quantify the good done versus the harm caused under the existing air medical regulatory regime before deciding that there is a problem that needs their intervention?

When I last attempted that quantification about a dozen years ago - using the most conservative estimate of what percentage of air medical transports were actually "lives saved" - I concluded that medical helicopters were saving about 2300 lives for every life lost in air medical mishaps. I used the figure of 1 in 200 patients transported as a "life saved" for my calculations plotted against the known fatal accidents and exposure data generated by Dr Ira Blumen of University of Chicago at Northwestern in his extensive research on air medical accident rates. More recent studies suggest that it is more like 1 in 67 patients transported is a "life saved" meaning the real ratio of lives saved to lives lost in the medical helicopter transport business is more like 6000 to 1. Is that record so bad? If CASA doubts my numbers - what numbers did they use in deciding how big of a problem existed?

And even where there clearly are air medical safety issues - how often has "lack of adequate one-engine inoperative performance" figured as a causal factor in an air medical accident? Has it ever happened? What if we're spending huge amounts to solve a problem that doesn't exist?

If the stringent, engine-out accountability planning requirements for every flight that are currently proposed were really effective measures in improving air medical transport safety - then one would expect for there to be a clear difference in outcomes such as accident rates or fatal accident rates between the European jurisdictions which embrace the EASA performance codes - and jurisdictions such the US where no real performance code is mandated for air medical operations. I'm not aware that the European air medical transport operations have any better safety record than the American operations. But I believe 10 out of 10 knowledgeable persons in the industry would say the imposition of such performance codes is far more expensive – possibly an order of magnitude more expensive. That is probably why it has been reported that EASA is retreating from its prescriptive and overly complicated regulatory regime while Australia seems to be embracing it.

When moving ambulance functions into public transport in Australia was first mooted - it was suggested that CASA needed to demand the highest standard because patients might not be in a position to evaluate for themselves the risk of flying in a public transport operation versus an aerial work operation. This weird twist of volenti non fit injuria doctrine ignores the doctrine of implied consent whereby medical and ambulance professionals can make informed decisions in the patients' interest absent actual consent or legal capacity. Those medical and ambulance professionals dictate air medical standards in Australia with knowledge of costs, risks and benefits.

The last major point of concern relates to the efficiency of the regime having regard to the need for at least some kind of obstacle surveys in the vicinity of hospital and medical landing sites. The obligations in respect of surveys seems to lie with each operator. Many facilities are owned by a health provider and used by more than one operator. If the proposal to incorporate medical transport into public transport succeeds in spite of all the reasons it shouldn't - will operators be able to rely on surveys conducted by the site owner or by other operators in order to operate there? Or will each operator have to satisfy themselves of the obstacle environment for each landing site for each occasion?

CASA response

The issue regarding the distinction between medical transport operations and SAR is addressed in the response to feedback from both the Northern NSW Helicopter rescue service and Careflight and is applicable to this element of respondent's feedback.

Flights tasked by agencies authorised to task SAR missions to search for and winch injured, and un-injured, persons are SAR under the authorisation and definitions in Part 138. The primary purpose of these flights is to search for persons and if they are found to rescue them by whatever is the safest means – this might be to land and board the aircraft or it might be to winch them onboard. These persons may or may not be injured and the definitions of SAR and medical transport have been set up to ensure a SAR flight does not become re-categorised just because an injured person is brought onboard the aircraft.

This is similar to current legislation where a SAR flight is not an ambulance function flight as they are both have distinct and specific aerial work purposes authorised by an AOC. How these flights are currently differentiated by operator's and whether all operators differentiate them on the same justifiable basis will not change. Currently, the differentiation typically occurs at the time of tasking which is what will occur under the CASRs. The main change is that the division has been made clearer.

Industry often uses the terms *SAR/EMS* and *HEMS* to describe certain operations. *HEMS* is not a defined term under current legislation, however for NVIS operations CAO 82.6 defines emergency medical services (EMS) and SAR as listed below.

> ***emergency medical services*** means an operation where transportation is required to facilitate emergency or medical assistance by an aircraft carrying 1 or more of the following:
>
> (a) medical personnel;
>
> (b) medical supplies (including equipment, blood, organs or drugs);
>
> (c) ill or injured persons, and other persons directly involved in, or associated with, their retrieval or care.
>
> ***search and rescue*** means an operation by an aircraft to search, locate, rescue, or provide immediate assistance to, a person threatened by a grave and immediate danger or a hostile environment.

These definitions are clearly two distinct types of operations and the new CASR's have placed these operations into separate categories and in doing so removed elements of uncertainty. The new CASRs also provide for increased ICAO and international harmonisation. For example, in the USA the FARs have re-categorised HEMS flights as a Part 135 commuter and on demand operation (refer Part 135 subpart L under the title of Helicopter Air Ambulance (HAA) operations).

The FAA has also issued Advisory Circular (AC) 135-14B Helicopter Air Ambulance Operations which outlines:

> "Part 135 subpart L addresses safety improvements for commercial helicopter operations through requirements for equipment, pilot testing, alternate airports and increased weather minimums for all General Aviation (GA) helicopter operations. Many of these requirements also address National Transportation Safety Board (NTSB) safety recommendations directed at improving HAA safety".

The AC goes on to state under section 1-1 Purpose:

> **"b. Phraseology Changes.**
>
> (1) The term Emergency Medical Service/Helicopter (EMS/H or HEMS) is obsolete. It is being replaced with HAA because, though a critical life and death medical emergency may exist, air ambulance flights are not operated as an emergency. Pilots and operator management personnel should not make flight decisions based on the condition of the patient, but rather upon the safety of the flight."

This is a very similar to what CASA has done with the development of Medical Transport Operations in Parts 119, 133 and 135 where the community importance of these flights has been balanced against the importance of managing the operational safety of flights. In many cases Part 133 has based its legislative standards on the current industry code of practice for these operations.

CASA notes the feedback relating to aeromedical patient survival rates and the contribution of the aeromedical operators to patient care. CASA supports and encourages safe and reliable aeromedical operations in Australian civil aviation.

CASA does not agree with the feedback relating to Australia embracing the prescriptive and overly complicated regulatory regime of EASA's performance code. CASA provides the following information to assist in clarifying this matter for the respondent.

CASA has designed, with the assistance of the industry over many years, a flexible and operationally achievable performance code based on the ICAO SARP requirements, which includes:

- Australian specific requirements and operational flexibilities for PC3 operations.
- Operations in performance class 2 with exposure in both the onshore and off shore environment.
- Specific operational performance relief provisions for operations to medical transport operating sites – where the performance code is switched off completely.
- Highly flexible obstacle checking and accountability procedures.
- The utilisation of operator-based risk assessment processes.

While for standardisation purposes the code outlined in Part 133 uses the same terminology as ICAO and EASA the regulatory requirements are quite different to that outlined in EASA provisions.

CASA has not "demanded the highest standard" of performance for medical transport operations. The proposed legislation has a minimum standard of performance class 2 with exposure. This decision was consulted with industry over many years and CASA has further modified the requirements by switching off the performance code completely when operating to medical transport operating sites and during medical transport winching operations, provided the operation is carried out to the operator's risk management procedures during these periods.

Regarding obstacle surveys around hospital heliports, CASA would assume these are carried out already, as many aeromedical helicopter operators are already operating in a manner very similar to the performance codes required in Part 133. Regardless of this, formal surveys are only needed if PC1 operations are to be carried out and CASA has not mandated those in the proposed legislation, however a hospital heliport operator may elect to require it for their own risk mitigation reasons.

By way of comparison to other NAA's, the FAA in AC150/5390-2C - Chapter 4 – Hospital Heliports has many recommendations for control of obstacles at such locations and outlines the following in 409(e) and 410:

> **"409e. Periodic review of obstructions.** Vigilant heliport operators reexamine obstacles in the vicinity of approach/departure paths on at least an annual basis. This reexamination includes an appraisal of the growth of trees near approach and departure paths. Paragraph 111 provides additional information on hazards to air navigation. Pay particular attention to obstacles that need to be marked or lighted. It may be helpful to maintain a list of the GPS coordinates and the peak elevation of obstacles.
>
> **Heliport protection zone (HPZ)** The FAA recommends the establishment of an HPZ for each approach/departure surface. The HPZ is the area under the 8:1 approach/departure surface starting at the FATO perimeter and extending out for a distance of 280 feet (85.3 m), as illustrated in Figure 4–11. The HPZ is intended to enhance the protection of people and property on the ground. This is achieved through

> heliport owner control over the HPZ. Such control includes clearing HPZ areas (and maintaining them clear) of incompatible objects and activities. The FAA discourages residences and places of public assembly in an HPZ. (Churches, schools, hospitals, office buildings, shopping centers, and other uses with similar concentrations of persons typify places of public assembly.) Do not locate hazardous materials, including fuel, in the HPZ."

CASA is of the view that if obstacle surveys are carried out by the heliport owner and the operator has satisfied themselves that these surveys are fit for their operations, then the operator could utilise them. A medical transport operator's SMS would require this in any case to ensure adequate monitoring of third party provided information.

CASA action

No change to be made.

Response 4

This response was submitted by Mike Watson from Aerial Agriculture Pty Ltd trading as Fleet Helicopters and Commercial Helicopters (Aust) Pty Ltd.

Comment 4-1

DEFINTIONS:

> **Aerodrome:** There is no definition of 'Aerodrome'.
>
> I believe from reading the entire draft Parts 119,133 and the associated MOS documents that there may be a basic lack of awareness of what we as an organisation (and other companies like ours) specialise in and where we operate. Much of what we do in very remote areas is currently classified as charter. My understanding is that under the new regulations this will now be classified as Passenger Transport and will therefore fall under the new Part 133. Due to the locations of our work and the tasks we conduct we very rarely ever use an 'Aerodrome' for our passenger carrying activities. The vast majority of our passenger transport work involves the carriage of clients to very remote areas in order to conduct their work. Examples are transporting powerline maintenance crew into remote sites to repair/maintain the infrastructure, the carriage of geologists and drilling crew to remote desert areas to conduct ground surveys and exploratory drilling programmes and carriage of firefighters to and from the fire ground.
>
> My question in regard to their being no definition for 'Aerodrome is:
>
> Does Aerodrome in this context refer to anywhere we land in our passenger carrying activities or does it simply refer to a registered aerodrome?
>
> (NB: please see my comments later relating to part 133.140 and the difficulty in meeting draft requirements given our area of expertise and location of work)

CASA response

The definition of *aerodrome* is contained in the *Civil Aviation Act 1988* and it is not limited to certified and registered aerodromes.

CASA action

No change to be made.

Comment 4-2

DEFINTIONS:

Air crew member *means:*

(1) A crew member for a flight:

(a) who carries out a function during the flight relating to the safety of the operation of the aircraft, or the safety of the use of the aircraft; and

(b) who is not a flight crew member for the flight.

(2) Despite subregulation (1), an air crew member:

(a) includes a crew member of a kind prescribed by the Part 138 Manual of Standards for the purposes of this paragraph; and

(b) does not include a crew member of a kind prescribed by the Part 138 Manual of Standards for the purposes of this paragraph.

The above section, in blue, contradicts itself and does not make sense.

CASA response

This provision is correctly drafted by the Office of Parliamentary Council (OPC) to allow the Part 138.MOS to prescribe a crew member who is an air crew member and to also prescribe certain crew members who are not air crew members. While it appears on the surface to contradict itself, it permits the MOS to perform two distinct purposes in regard to air crew member prescriptions.

CASA action

The references to Part 138 in this definition will be amended as the term air crew member is used in both Part 133 and 138.

Comment 4-3

133.140 Availability of flight planning information

(1) The operator of a rotorcraft for a flight contravenes this subregulation if a requirement mentioned in subregulation (2) is not met for the flight.

(2) The requirements are the following:

(b) each person in the operator's organisation who is responsible for flight planning for the flight must have access to the information mentioned in subregulation (3) before the flight

(3) The information is the following:

(c) the suitability for a take-off or landing by the rotorcraft of:

(i) the departure and planned destination aerodrome for the flight

This information is simply impossible to determine for the remote area work we specialise in. Our work includes:

Passenger transport during flood emergency response

Carriage of powerline maintenance crew to remote areas to land and conduct repairs/maintenance to the electricity infrastructure

Remote area charter work with geologists and exploration drill rig operators to conduct mineral exploration in remote desert areas.

Carriage of property owners/managers around their remote or cut off properties to conduct fencing or water infrastructure maintenance

In these types of tasks in remote areas there is no ability to access any information to allow assessment of the departure or landing site quite simply because we do not know where it will be until we arrive in the general area and conduct an aerial survey to select a suitable location.

It would be impossible for us to ever comply with this regulation. Sufficient fuel is always carried to be able to conduct multiple site assessments if required and to land at an alternate location. This regulation is unworkable for remote area charter and will make helicopter remote area charter and mineral exploration support impossible. This is the very reason the industry provides helicopters.

This regulation could be worded to require the operator to:

utilise all available information to make an assessment of the departure and landing sites prior to departure. If no such information is available, the operator must have suitable procedures in their operations manual to allow pilots to select or reject a landing or departure location based upon an aerial assessment directly overhead the site (as per 133.180).

The inability to have this flexibility will simply mean we can never comply with requirements for the bulk of our passenger transport operations

CASA response

The provision recognises the versatility of rotorcraft and allows quite a lot of flexibility regarding the information required. The provision only requires the persons mentioned to have assessed the information indicated in subregulation (3). The information may outline that the planned destination may or may not be suitable. However, the provision recognises that air transport operations do need to have in their flight plan either a suitable destination aerodrome or, if this is not available or is unable to be determined, a suitable alternate aerodrome which can be used if the destination proves, for whatever reason, to be unsuitable.

To clarify this CASA will amend subregulation (4) to apply to all air transport operations.

Additionally, many of the remote area work flights mentioned above by the respondent may also be covered by the aerial work passenger class of persons constructed for Part 138, and may also be able to be carried out under that legislation.

CASA action

CASA will amend regulation 133.140 of CASR to apply to all air transport operations if certain conditions are met.

Comment 4-4

133.165 Safe approach and landing conditions

(1) The pilot in command of a rotorcraft for a flight contravenes this subregulation if:

(a) any of the following conditions at an aerodrome will not allow the rotorcraft to conduct a safe approach, landing or baulked landing:

(i) visibility;

(ii) cloud ceiling height;

(iii) wind conditions;

(iv) the condition of the aerodrome;

(v) the ground or water surrounding the aerodrome; and

(b) the rotorcraft conducts an approach to, or a landing or baulked landing at, the aerodrome.

(2) A person commits an offence of strict liability if the person contravenes subregulation (1).

Penalty: 50 penalty units

As an offence of strict liability, the wording of this rule makes a pilot automatically guilty of an offence if they make an approach to a landing at an 'aerodrome' that is unsuitable. Given the limitations we have to site information prior to conducting flights (as mentioned in the previous comment), the condition of the aerodrome and its ground may apparently be completely suitable according to all possible research until the approach is made.

This should not be an offence of strict liability as the unsuitability of the surface/aerodrome may not be apparent until late on approach through no fault of the pilot or the procedures to assess the site prior to landing. Although it goes against all good airmanship an inexperienced pilot may be encouraged to proceed to make a landing at an unsuitable site and hoping for the best rather than breaching the regulations by conducting a missed approach and go-round.

CASA response

CASA agrees much of this provisions' requirements are covered by 133.185 (now 133.170) and the operator's procedures to determine information about aerodromes.

CASA action

Provision deleted.

Comment 4-5

133.185 Procedures to determine information about aerodromes

As per my comments above for regulation 133.165 it is impossible for us to obtain much of the information above prior to departure.

This clause could state: …..

(b) procedures for the pilot in command to plan a take-off from, or a landing at, an aerodrome, including a procedure to determine the kinds of information mentioned in subregulation (2), if available in relation to the aerodrome

CASA response

CASA notes that this provision (now new rule 133.170) is about the operator having procedures in their exposition to determine the kinds of information outlined in subregulation (2).

The inclusion in the provision of the words "(if any)" after many of the "kinds of information" recognises that even though the procedure exists in the exposition, the information may not be able to be determined for a particular flight to a particular destination aerodrome (heliport).

CASA appreciates that greater clarity would be appropriate and the CASA guidance material for the construction of these procedures will include a reference to a procedure which should outline what a pilot must do if particular kinds of information cannot be obtained. This is very similar to how this is addressed today. Once permission, and the available information is obtained, a pilot would be instructed by the operations manual to do precautionary reconnoitre prior to descending and approaching a new landing site to ensure it is safe to land at.

CASA action

CASA will develop guidance material to specify that if the information which cannot be determined in detail for the purposes of (1)(b), then the operator's procedure must include a risk assessment and management process for determining this information for the pilot-in-command (PIC) to plan a take-off from, or a landing at, an aerodrome before a take-off from, or a landing at, the aerodrome occurs.

Comment 4-6

133.340 Definitions:

stage, of a flight of a rotorcraft, means any of the following:

(a) take-off;

(b) take-off and initial climb;

(c) en-route flight;

(d) approach and landing or baulked landing.

There is no definition of 'initial climb' There are many clauses in the draft regulation that refer to the 'initial climb' phase of flight. Many of the clauses including 'initial climb' are regulations of strict liability and I believe this requires an accurate definition in itself to give flight crew clarity of when they are in fact in that phase of flight. Is it once 500 feet AGL is reached or upon the first turn after take-off etc?

CASA response

CASA has reviewed this matter and the phrase *initial climb* is used 23 times across Part 133 and the Part 133.MOS. In this situation the term is predominantly (21 times) used in combination with of the defined term *stage* of a flight of a rotorcraft. For these uses, the initial climb stage normally ends when the rotorcraft reaches or passes the minimum flight altitude for the flight on climb out to its en-route cruise altitude. This height varies dependant on the type of operation being undertaken as follows:

minimum flight altitude, for a point on the route, or a route segment, of a flight of a rotorcraft, means:

(a) for an I.F.R. flight:

(i) the published lowest safe altitude for the route or route segment; or

(ii) if subparagraph (i) does not apply — the lowest safe altitude for the route or route segment; or

(b) for a V.F.R. flight at night — 1 000 ft above the highest obstacle on the ground or water within 10 NM of the rotorcraft at that point; or

(c) for a V.F.R. flight by day — 1 000 ft above the highest obstacle on the ground or water within 5 NM ahead of, and to either side of, the rotorcraft at that point.

The other three uses of the phrase are in 133.105(1) and (2) regarding safe crew activities and 133.565 regarding when a flight may take place with inoperative HTAWS, where fitted to the rotorcraft.

CASA agrees that this needs to be standardised, clarified and aligned with the minimum heights outlined in regulations 91.400 and 91.403 of CASR and an effective limit put on the initial climb stage of 1000 ft for VFR at night, 1000 ft for operations in populous areas and 500 ft for other areas.

CASA action

CASA will amend the references in subregulations 133.105(1) and (2) and regulation 133.565 to refer to the take-off and initial climb stage as a combined term.

CASA amend the definition of *minimum flight altitude* to include additional elements as follows:

minimum flight altitude, for a point on the route, or a route segment, of a flight of a rotorcraft, means:

(a) for an I.F.R. flight:

(i) the published lowest safe altitude for the route or route segment; or

(ii) if subparagraph (i) does not apply — the lowest safe altitude for the route or route segment; or

(b) for a V.F.R. flight at night — 1 000 ft above the highest obstacle on the ground or water within 10 NM of the rotorcraft at that point; or

(c) for a V.F.R. flight by day in a populous area — 1 000 ft above the highest obstacle within a horizontal radius of 300 m of the point on the ground or water immediately below the rotorcraft; or

(d) for a V.F.R. flight by day not in a populous area — 500 ft above the highest the highest obstacle within a horizontal radius of 300 m of the point on the ground or water immediately below the aircraft the rotorcraft at that point.

Comment 4-7

133.685 Pilot in Command – flight hours required table

Question:

For item 2 in the table; VFR flight single-engine rotorcraft – the 5 hours as pilot in command or PIC under supervision – is this required just in one single engine rotorcraft to satisfy the requirement for all single engine rotorcraft. e.g. Does 5 hours in a B206 allow you to do conduct passenger transport in an AS350 or is the 5 hours PIC required in the AS350 as well? This is not clear

CASA response

This is clarified using the reference to *rotorcraft of the kind* in subregulation (2).

The CASR dictionary defines *kind* of aircraft to mean:

> ***kind***, of an aircraft, means:
>
> (a) for an aircraft that is covered by an aircraft type rating—the aircraft type rating; and
>
> (b) for an aircraft that is not covered by an aircraft type rating—the type of aircraft

For the purposes of this definition the B206 and the AS350 are different types.

This is like current requirements in clause 8C of CAO 82.0 that relate to the **type** of helicopter as follows:

> **8C Aircraft ratings — helicopters**
>
> 8C.1 Each certificate authorising regular public transport, or charter, operations is subject to the condition that the AOC holder must ensure that the requirements of this subsection are met.
>
> 8C.2 A person must not fly as pilot in command of a helicopter that is engaged in regular public transport, or charter, operations unless the person has the minimum aeronautical experience in that type of helicopter as pilot in command or as pilot acting in command under supervision mentioned in Appendix 8C, having regard to:
>
> (a) whether the helicopter is single-engine or multi-engine; and
>
> (b) whether the operation is conducted under the V.F.R. or the I.F.R.; and
>
> (c) whether a permitted reduction applies.
>
> **Appendix 8C**
>
> **Minimum aeronautical experience requirements to conduct charter, or regular public transport, operations in a type of helicopter**

Type of helicopter	**Minimum aeronautical experience as pilot in command or acting in command under supervision for single-pilot operations**		**Minimum aeronautical experience as pilot in command or acting in command under supervision for multi-pilot operations**	
	Night V.F.R./Day V.F.R.	I.F.R.	Night V.F.R./Day V.F.R.	I.F.R.
A type of single-engine helicopter	5 hours	N/A	10 hours	N/A
A type of multi-engine helicopter	10 hours	15 hours	15 hours	20 hours

Please note – the reference to type in CAO 82.0 does not include a reference to a helicopter requiring a type or class rating under Part 61 it just refers to the general concept of a "that type of helicopter".

The policy in Part 133 does not include the permitted reduction in CAO 82.0 from 5 to 3 hours in each type of single engine helicopter outlined in the CAO as follows:

> "For an operation in a single-engine helicopter under the V.F.R. with a single pilot — if a pilot has 5 hours' aeronautical experience on another type of single-engine helicopter, the minimum aeronautical experience as pilot in command, or acting in command under supervision, is to be reduced from 5 hours to 3 hours".

Part 133 differs the requirement to the operator to include the minimum flying experience for all rotorcraft in their exposition.

Therefore, regarding the question from the respondent "does 5 hours in a B206 allow you to do conduct passenger transport in an AS350 or is the 5 hours PIC required in the AS350 as well?" the answer is no – as is the case today – as 3 hours as PIC are required today in the AS350 for charter operations.

CASA action

CASA will amend regulation 133.685 of CASR to provide for 2-hour reduction in PIC time like the current CAO 82.0 policy.

Comment 4-8

MOS 68 Performance Class 3 – take-off and initial climb

> …… (4) The rotorcraft must:
>
> (a) remain outside the rotorcraft's avoid area; or
>
> (b) if it is necessary for the rotorcraft to enter the avoid area to avoid an accident or incident— not remain inside the avoid area for longer than the minimum period necessary to avoid the accident or incident
>
> As previously mentioned, much of our current charter (future passenger transport) operations are conducted in very remote areas. In many instances it is simply not possible to conduct our tasks without conducting a type of take-off that enters the avoid area for period. This requirement would severely restrict our current operations. It would not be feasible at all to utilise a twin-engine aircraft for these tasks as the client simply would not pay for the increased cost. This regulation has the ability to seriously financially impact on our operations. Any time spent in the avoid area is minimized and vertical take-offs or landings are only used in extreme situations.
>
> Areas where it is necessary to conduct such take-offs or landings are:
>
> Firefighting operations: we are required to deliver and pick up firefighters to and from the fire ground often in very difficult terrain.
>
> Delivering powerline maintenance crew to damaged powerlines following extreme events such as storms, cyclones, fires and floods.
>
> Remote area mineral exploration and mining support work.

CASA response

The provision does not prevent performance class 3 operations in the avoid area for rotorcraft when the avoid area is not a limitation in the flight manual. The provision states you may enter the avoid area (in rotorcraft where this is not a limitation) to avoid an accident or incident and an accident or incident could occur associated with hitting an obstruction in the departure flight

path. The generic term *accident or an incident* was used to describe the numerous potential situations which may require this type of operation rather than compile a potentially incomplete list of circumstances where this could be used.

The provision also outlines, if a normal HV compliant take off profile can be used and not cause and accident or incident, then that profile should be used as it is the safest option.

Considering this, the operations mentioned will not be limited provided that the entry into the avoid area is minimised and the respondent outlines this policy for their operations. Additionally, many of the operations described may well be able to be carried out under the aerial work passenger class of operation in Part 138 as described earlier and not in any case be air transport operations by default.

CASA action

No change to be made.

Comment 4-9

MOS - Division 3 – Flight Recording Equipment – sections 81 and 82

> The requirement for rotorcraft as small as MTOW 3175kg to have an FDR and CVR installed is I believe an overly burdensome requirement. Upon initial enquiry these systems will cost at least $100,000 USD which may be as much as 10% of the total aircraft value and on an aircraft only earning around $5-7000 AUD per flight hour this is simply not financially viable. Many of these aircraft will only be conducting single pilot Day VFR passenger transport conducting such operations as firefighter transport or flood relief work. I believe this requirement should be removed for all rotorcraft below 5700kg MTOW.
>
> Also for clarification on this proposed requirement: does the '…was first issued with a certificate of airworthiness on or after 1 January 2005 (or 1987) refer to the aircrafts initial C of A upon release from the manufacture or to the initial C of A when placed on the Australian Register? A multi engine rotorcraft may have been manufactured overseas and issued its 'initial' C of A in the 1990's (or earlier) but have its initial Australian C of A issued upon import just recently.

CASA response

Current ICAO requirements for fitment of FDR to helicopters in commercial air transport operation are:

- all helicopters of a maximum certificated take-off mass of over 3175 kg for which the individual certificate of airworthiness is first issued on or after 1 January 2016 shall be equipped with a Type IVA FDR
- All turbine-engined helicopters of a maximum certificated take-off mass of over 2250 kg, up to and including 3175 kg for which the application for type certification was submitted to a Contracting State on or after 1 January 2018 shall be equipped with:

  a) a Type IV A FDR

  or

b) a Class C AIR capable of recording flight path and speed parameters displayed to the pilot(s)

or

c) an ADRS capable of recording the essential parameters defined in Table A4 3 of Appendix 4.

ICAO also specifies a number of recommendations for all helicopters with a take-off mass of less than 3175 kg but CASA has not adopted these recommendations.

CASA is cognisant of the costs associated with this policy and appreciates the respondent's feedback in regard to his fleet fitment issues. CASA must also consider its obligations under the Chicago Convention in relation to future rule development requirements and the safety outcomes they are designed to produce.

CASA will develop, in consultation with industry, a set of transitional provisions for the introduction of these updated standards which are designed to minimise their impact on current operators.

Regarding the timeline associated with the issue of the CofA of the aircraft, ICAO uses the statement "for which the individual certificate of airworthiness is first issued" this appears to relate to the first or original certificate issued for the aircraft.

CASA action

CASA will develop transitional provisions regarding this matter providing more time for industry to comply beyond the initial commencement date of Part 133 of CASR.

Other feedback

Comment

The Part 133 MOS refers to 'Preventative Maintenance'. This is a new concept in Australian regulation. Please define what preventive maintenance is and if pilots are approved to carry out preventive maintenance.

CASA response

This term is used in Parts 39 and 46 of the MOS and was carried over from the original JAR OPC 3 concepts for performance class 2 with exposure.

In the current EASA AMC/GM to ANNEX IV (PART-CAT) – AMC2 CAT.POL.H.305(b) "Helicopter operations without an assured safe forced landing capability", preventative maintenance is required to be conducted in order to obtain an approval under CAT.POL.H.305(a). The AMC states:

(b) Conduct the preventive maintenance actions recommended by the helicopter or engine manufacturer as follows:

(1) engine oil spectrometric and debris analysis — as appropriate;

(2) engine trend monitoring, based on available power assurance checks;

(3) engine vibration analysis (plus any other vibration monitoring systems where fitted); and

(4) oil consumption monitoring.

These preventative maintenance activities are not similar to traditional pilot maintenance tasks under current Schedule 8 of the CARs. Noting that this is a new concept for Australia, CASA will provide comprehensive guidance material on Part 133 operations with exposure.

CASA action

CASA will amend Part 39 of the MOS to relate preventative maintenance to continuing airworthiness and define the scope of preventative maintenance actions to illustrate that these activities are not pilot maintenance tasks.

Comment

Division 133.D.3—Flight planning

133.140 Availability of flight planning information

Q. With regard to the flight planning section. In relation to operators, this section requires information about the suitability of T/O and Landing with the need to hold aerodrome forecasts for operations even during off aerodrome operations.

Assumptions in this section depict all helicopter operations are planned to/ from aerodromes.

There is no definition in the documentation that refers to “aerodrome” – Could inclusion of such a wider definition be a solution to the anomaly?

CASA response

CASA understands many helicopter operations operate to destinations not supported by aerodrome forecasts and has created this provision to allow for such operations. Therefore, the provision does not require such forecasts for places where they are not obtainable and similar to current practice, operations will proceed on the basis of providing for a suitable alternate if the destination cannot be used. There is also a specific exemption for medical transport operations built into the provision at 133.140(4) which reduces the requirements further to allow the highest level of flexibility for such operations.

Regarding the definition of *aerodrome*, Part 133, like all dependant legislation, relies on the definition of *aerodrome* as outlined in Part 1 section 3 of the *Civil Aviation Act 1988*:

> ***aerodrome*** means an area of land or water (including any buildings, installations and equipment), the use of which as an aerodrome is authorised under the regulations, being such an area intended for use wholly or partly for the arrival, departure or movement of aircraft.

Interpreted broadly, this definition covers any place intended for use, wholly or partly, for the arrival, departure or movement of aircraft.

CASA action

No change to be made.

Comment

133.145 Operational Flight Plans

Q. In relation to operators, Operational Flight Planning requirements assume departure from aerodromes.

Assumptions in this section indicate Rotorcraft operations are from aerodrome to aerodrome, without provision of off aerodrome operations.

It is suggested that the departure and destination places defined as aerodrome be widened to include off aerodrome locations – i.e. HLS. Many Passenger Carrying and Medical Transport Operations are not intended or in real life conducted to or from aerodromes.

The effect of this is that passengers may as well take an aeroplane ride aerodrome to aerodrome with obvious detriment to Rotorcraft operations both in the passenger and medical transport sectors.

There is no definition in the documentation that refers to “aerodrome” – Could inclusion of such a wider definition be a solution to the anomaly?

CASA response

See comment above regarding the definition of *aerodrome* which includes heliports, helideck and other locations used wholly or partly for the arrival, departure or movement of aircraft.

CASA action

No change to be made.

Comment

Division 133.D.4 — Flight rules

133.150 – 133.155 – 133.160

CASA response

No feedback supplied for these elements by respondent.

CASA action

No change to be made.

Comment

Division 133.N — Knowledge of route and aerodromes

133.717

Q. Assumptions in these sections indicate Rotorcraft operations are from aerodrome to aerodrome, without provision to off-aerodrome operations.

It is suggested that the departure and destination places defined as aerodrome be widened to include off aerodrome locations – i.e. HLS. A large percentage of

Passenger Carrying and Medical Transport Operations are not intended or in real life conducted to or from aerodromes.

The effect of this is that passengers may as well take an aeroplane ride aerodrome to aerodrome with obvious detriment to Rotorcraft operations both in the passenger and medical transport sectors.

There is no definition in the documentation that refers to “aerodrome” – Could inclusion of such a wider definition be a solution to the anomaly?

CASA response

See comments above regarding the definition and use of the term *aerodrome* which includes heliports, helideck and other locations used wholly or partly for the arrival, departure or movement of aircraft.

Regulation 133.717 is drafted in a performance-based manner and allows the operator to outline the knowledge a pilot must have about their destinations. This could include a generic risk assessment and hazard identification procedure for the use of places that are not outlined in the AIP and are used regularly for operations or might be a temporary landing site for medical transport operations.

CASA action

CASA will outline this matter in the Part 133 guidance material.

Comment

Division 133.K.9 — Usage Monitoring systems

133.620 Usage monitoring systems

Q. Usage monitoring systems are available in various staged forms. It will be a significant financial burden to operators and clients to retrofit comprehensive HUMS to existing aircraft that are likely to be around until the mid 2020’s time period. It is an expensive exercise and for some types the baseline datasets have not been formulated.

This comment is that an extended “grandfather period” excluding such aircraft from the Usage Monitoring requirement would allow progressive phase out of these aircraft. Alternatively, that a less comprehensive monitoring system be permitted to cover phase out of the older airframes. In practical terms this would be from introduction of the regulation plus 4 years as similarly proposed for HTAWS (albeit for 2 years) and for the similar reasons.

The introduction of full HUMS may well entail expenditure of up to 20% of the hull value for some types, on a single system upgrade. The cost to the operator and user community is significant and arguably unwarranted in existing airframes.

CASA response

Regulation 133.620 of CASR provides the legal ability to prescribe a usage monitoring system (UMS) in the Part 133.MOS.

Currently UMS is only prescribed for operators who wish to apply for and obtain an approval to operate in performance class 2 with exposure operations. This is an international baseline

requirement for these operations and is essential for establishing the safety target and reliability criteria for the approval to be issued. Therefore, if you are not intending to operate your types which do not have HUMS or UMS fitted in this performance class then it will not impact on your operations.

CASA has used the term UMS rather than HUMS to allow alternative systems to a full HUMS to be put forward for this purpose outlined in section 47 and 48 of the Part 133 MOS. However, the system must be reliable, accurate, comprehensive and a continuously operating system, which records and stores data related to the rotorcraft's engines and transmission systems.

CASA will further explore with industry the potential of acceptable systems other than full HUMS as an interim measure until fleet upgrades occur later.

CASA action

No change to be made.

Comment

Division 133.N — Flight crew

133.670 Composition, number qualifications and training

2 (h)

The comment regarding this subsection is to cater for passenger operations or medical transport operations where aerodromes and standard types of route checks appear to be omitted.

As well as routes and aerodromes, which appear to be a valid requirement, there should be a wider inclusion for off field and primary medical transport requirement to include "representative" off-field competency checks to HLS as an AMC for rotorcraft operators who are not confined to aerodrome MT operations.

This applies to many sections of the 133 exposure document and may be solved by insertion of a definition of "aerodrome" which includes off-field HLS.

CASA response

Please see previous comments on page 29 on the broad definition of *aerodrome* as outlined in earlier feedback.

CASA agrees with the general concept put forward by the feedback.

CASA action

CASA to develop appropriate guidance material in relation to off-field competency checks.

Comment

Division 133.D.9 — Miscellaneous

133.317 External load operations involving winching a person

Subpart 133.F – Performance

133.375 Flight in a performance class

Q. 133.317 specifies performance requirements of external load operation involving human winching or hoisting activities. There are no provisions in this section or MOS for training of Flight Crew, Aircrew, Medical Transport Specialists for qualification and ongoing competency training using an operationally prepared rotorcraft. Few helicopters can meet the OEI/HOGE and other performance configured for immediate aeromedical response and this precludes use of on-site operational aircraft

Initial training, currency and competency training is often conducted at Operational Base locations where the duty helicopter is also the airframe for ad hoc currency or training sorties. The performance requirement of these sections would entail stripping out most medical operational equipment and de-fuelling to meet the criteria. This risks loss of availability for unreasonable periods where it would be necessary to reconfigure and restore fuel quantity for expedient aeromedical response.

There is significant disadvantage to the intent of urgent Medical Transport operations. There is loss of recency opportunity which may impact on safety of the operation. This would adversely affect the client, MT operator and the community expectation of a ready aeromedical response.

Having no real-life incidents reported, that negligible risk could be easily resolved by inserting into this paragraph, provision to conduct training for Medical Transport Operations. Facilitating training otherwise not permitted, would be part of the MTO without prohibitive performance compliance.

Operators already mitigate and Risk Assess these types of activities by selection of suitable terrain and favourable environmental arrangements as an adjunct to performance as mitigation. Therefore, this company suggests that training, currency and cable conditioning be included in context of urgent Medical Transport

CASA response

Similar to current practice, where the training of Flight Crew, Aircrew, Medical Transport Specialists for qualification and ongoing competency training are not RPT, charter or aerial work ambulance function operations, training operations under the CASRs will be either a Part 141, 142, 138 or a Part 91 operation, dependant on the type of training being undertaken.

As such, the performance limitations outlined in Part 133 and the Part 133.MOS will not apply to these training flights which will typically, if a Part 61 qualification is not being sought, be carried out under the requirements of Part 91 or Part 138. Therefore, none of the above loss of availability, disadvantage or adverse effects on community expectation will be imposed by this legislation.

Naturally, this does not prevent the operator from conducting their operations to the criteria outlined in their expositions or from instructing their crews that this must be the case and as such the risk criteria will still be able to be effectively applied to these operations as outlined above.

CASA action

No change to be made.

Comment

Operations under 133.317 and also for the performance purposes of 133.375 Sub regulation (2)(a)

Cable conditioning

Cable stretching or conditioning is a routine practice where maintenance requires or in the case of where a winch operator suspects that it may provide a safety inspection and safety confirmation after specific operational events.

The HOGE/OEI 133.317 requirements preclude cable conditioning activity being carried out by an aircraft on operational base in operational MTO configuration. A routine “cable stretch” or “cable conditioning” being required at an operational base where there is only one aircraft on stand-by during a period of stand-by will result in the resource being unavailable for the intended and contracted Medical Tasking.

In the exposure draft, there is no solution for training in a medically configured aircraft and no provision for routine cable conditioning in a helicopter configured for response. Part 133 and the MOS is the correct place to provide regulation of this kind of activity. Insertion of a supplementary provision will allow operators to train under the Medical Transport concessions from performance requirements of the section. Having the operator’s exposition as specified in the performance requirements of 133.375, leaves the situation understated and open to many different or non-standard methods or interpretations. I think it is an omission of this Part 133 or MOS section that you can perform a task but there’s no provision to train, maintain currency or safety

CASA response

Under Part 119 cable conditioning is not an air transport operation, therefore the performance requirements of Part 133 will not apply. This should not be an issue for the operations outlined in the feedback. Cable conditioning is likely to be an external load operation under Part 138 and this will not have these restrictions either unless the activity were to be conducted over a populous area.

As outlined above, Parts 119 and 133 are the air transport certification and operating rules for the purposes of air transport operations. The Parts have requirements for training and checking systems and training and checking operational considerations that an operator needs to ensure their crews undertake before the can operate on air transport operations, but by definition such training flights are not themselves air transport operations.

This is the identical situation that exists in the current legislation under CAR 217 training and checking requirements and CASA has not put forward a change of policy in this regard or consulted on such a change.

CASA action

No change to be made.

Comment

Division 133.K.8 — Emergency and survival equipment

133.615 Emergency and survival equipment

Q. In this section and the associated MOS 141 there is a requirement for emergency and survival equipment in AT operations. However, there is no guidance regarding specifications of emergency flotation equipment required in either section. This will be

important when industry potentially passes the cost and recovery estimates to clients as a result of legislation change.

CASA response

Section 141 of the Part 133.MOS prescribes the circumstances when emergency flotation equipment must be fitted to a rotorcraft conducting passenger transport operations, as follows:

> **141 Emergency flotation equipment**
>
> (1) This section applies to a flight of a rotorcraft that is a passenger transport operation.
>
> *Flights to, or from, helidecks*
>
> (2) Subsection (5) applies if the flight is to, or from, a helideck.
>
> *Other flights over water*
>
> (3) Subsection (5) also applies if:
>
> (a) the rotorcraft will be flown further over water from land than the distance in which, with 1 engine inoperative, the rotorcraft could reach a suitable forced landing area, for the flight, on land; and
>
> (b) the flight over water is not permitted under subsection (4).
>
> (4) For paragraph (3) (b), the flight over water is permitted if:
>
> (a) it is in a rotorcraft access lane mentioned in the AIP; or
>
> (b) both:
>
> (i) it is to comply with instructions from air traffic control; and
>
> (ii) it is for no longer than 2 minutes at normal cruising speed in still air.
>
> (5) For paragraph 133.615 (1) (a) of CASR, emergency flotation equipment is prescribed.

This policy which only applies to passenger transport operations is unchanged from the current CAO 20.11 requirements and therefore should not generate cost impacts for industry.

The technical specifications of emergency flotation equipment installed on different types of rotorcraft are normally the subject of a flight manual supplement for the helicopter.

CASA action

No change to be made.

Comment

The timeline for change is an important consideration and whilst it is acknowledged that CASA needs to promulgate timelines across multiple parts in a reasonable time frame, adherence to a timeline should not be at the expense of holding some present conditions and arrangements such as alternative means of compliance (AMC) current, until a true transition takes place. The opportunity to change in 2.5 years to comply will only be useful if the change is validated against present means of compliance.

The fact that this project has already taken more than 16 years is an indicator of the safety and industrial implications of these changes. The industry is a different place than it was during the late 1990's and early 2000's. Haste towards contemporaneous transition to related CASR's may in some cases cause undue compliance hardship and financial impost to clients and medical transport operators. Planning of several years past may take longer than 2.5 years to "unpick" and put a compliant practical procedure in place.

This comment suggests an extended "grandfather period" excluding such potentially expensive aircraft standards and arduous training requirements will allow progressive phase out non-compliant aircraft and training practices. "Grandfathering" is not provided for in the CASR.

It may well be that a fleet replacement program has been planned over a long period (before the changeover date was set). Where fleet replacement in a business and contract context is at a certain date; this hard compliance date may force early retirement of ageing or obsolete equipment. This introduces financially detrimental policy to a previously planned transition to achieve the same end. In practical terms the suggestion is to hold the introduction of the regulation flexible to "plus" 4 years as similarly proposed for HTAWS (albeit for 2 years) and for the similar reasons.

It is requested that flexibility be mandated into the 2019 commencement analysis of part or all of the CASR Part 119 and Part 133 regulations and into withdrawing compatible aspects of CAR 1988. This flexibility will guarantee the intent of the new regulation to provide a manageable transition over a longer period with minimal disruption to the running of such important community service.

CASA response

As indicated by the respondent the scope of the regulatory change is considerable. The Summary of Proposed Change document accompanying the public consultation, indicated that CASA intends to provide flexibility of the type requested. This will be for **specific regulatory requirements** as compared to a transition period applicable to the entire regulatory suite.

CASA considers the regulatory change approach of a single date changeover minimises the significant potential for confusion. CASA is open to suggestions from industry about which specific requirements should have delayed applicability dates. Broadly, CASA intends to only have one operational regulation set (either CAR or CASR) applicable at one time.

In early 2019, CASA intends to define transitional requirements and will make further comment on the specific provisions that will have a delayed applicability period. .

CASA action

No change to be made.

Comment

Feedback was received that the definition of *authorised weather report* was inaccurate and not in accordance with current policy outlined in the AIP. Notably, the ability for the holder of a pilot license to provide unrestricted weather reports does not match the approved observer limitations at para 4.5.2 of AIP GEN 3.5.

CASA response

CASA agrees with the feedback.

CASA action

CASA will change the definition of *authorised weather report* as appropriate.

Comment

Feedback was received that the draft regulations and MOS used the term *meteorological conditions* which is not currently defined by either Australia or ICAO. Commentary was that if the term remained undefined it was open to interpretation and it was suggested that the term be defined or substituted to ensure the relevant provisions were enforceable.

Additionally, feedback was received regarding the consistency, or lack thereof, regarding the use of the defined terms *authorised weather forecast* and *authorised weather report*.

CASA response

Where a term is not specifically defined in the regulations, legal interpretation is that the term takes on its natural meaning or common meaning as widely understood in the applicable industry.

The term *meteorological conditions* is used throughout ICAO Annex 2 and Annex 6 as an independent term. It is also used in conjunction with the words *visual* and *instrument* to form the abbreviations VMC and IMC respectively. CASA considers that the term is well understood by the aviation community and has been used for decades in the context of VMC and IMC as a baseline term.

CASA agrees that maximum usage should be made of the defined terms *authorised weather forecast* and *authorised weather report* where this is appropriate.

CASA action

No change to be made in relation to *meteorological conditions*.

CASA will amend the relevant provisions of the MOS outlined in the feedback to utilise the defined terms *authorised weather forecast* and *authorised weather report*.

Comment

Feedback was received regarding the use of the term *pressure altitude* in Part 57 of the MOS and whether *accurate pressure altitude* should instead be used.

Additionally, feedback was received that authorised weather reports do not normally provide *instantaneous wind speed and direction* and therefore the MOS requirement may not be achievable.

CASA response

The use of the term *pressure altitude* has been carried across from existing CASA legislative requirements related to aircraft performance calculations. CASA considers that this is a well understood requirement by the aviation community.

Accurate pressure altitude is used in the AIP in relation to altimeter accuracy checking prior to take-off — these requirements are outlined in the Part 91 MOS. It is not necessary to use the expanded phrase *accurate pressure altitude* in relation to performance calculations.

CASA agrees with the feedback that the use of the word *instantaneous* (in relation to wind speed and direction and authorised weather reports) is impractical.

CASA action

No change to be made to the use of the term *pressure altitude* for performance calculations.

CASA will substitute an alternative phrase for *instantaneous wind speed and direction*.