

**Proposed Deviation to JAR/CS 25.815 In-Flight Compliance for Large
Aeroplanes with fewer than 20 passengers under commercial operations**
Issue 1

Introductory note:

The hereby presented Deviation to the EASA Certification Basis shall be subject to public consultation, in accordance with EASA Management Board decision 12/2007 dated 11 September 2007, Article 3 (2.) of which states:

"2. Deviations from the applicable airworthiness codes, environmental protection certification specifications and/or acceptable means of compliance with Part 21, as well as important special conditions and equivalent safety findings, shall be submitted to the panel of experts and be subject to a public consultation of at least 3 weeks, except if they have been previously agreed and published in the Official Publication of the Agency. The final decision shall be published in the Official Publication of the Agency."

Statement of issue

JAR and CS 25.815 identically prescribe the minimum width of aisle as follows:

The main passenger aisle width at any point between seats must equal or exceed the values in the following table:

Passenger seating capacity	Minimum passenger aisle width (inches)	
	Less than 25 inches from floor	25 inches and more from floor
10 or less	12*	15
11 to 19	12	20
20 or more	15	20

**A narrower width not less than 9 inches may be approved when substantiated by tests found necessary by the Authority*

EASA regularly receives applications involving aircraft cabin interior features designed to be able to be moved into the aisle space required by JAR/CS25.815.

Aisles are required to allow for rapid on-ground egress from the airplane in an emergency but they also provide the means for crewmembers to access all parts of the cabin during flight phases to address emergency conditions.

Additionally, they facilitate passengers returning to their seats during turbulence.

In the case of "Executive" or "VIP" aircraft, the desire to be able to re-configure the airplane after take-off to best use the available interior space is widespread and often leads to extensive encroachment into the aisle.

Design features include items such as swivelling/tracking seats, deployable sofas, folding tables etc.

It is to be noted that sometimes the more traditional airliner cabin designs also have features intended to be moved into the required aisle space during flight, such as in arm tables and video arms. However, the encroachment is typically more limited. Although it is an area in which EASA also feels the need for improved regulatory

control, the issue of aisle encroachment in traditional airliner cabins is being dealt with separately and is not covered in this document.

Terms such as “Executive”, “VIP”, “Airliner” are however not defined in any regulatory documentation.

Historically it has often been accepted, for all types of aircraft, that the aisle required by JAR/CS25.851 may be claimed as that available with all moveable features placed in their intended taxi, take-off and landing position.

However, neither the text of JAR/CS25.815 nor guidance materials support this practice. In the following, the single term “VIP” will be used only to facilitate discussion, but it will not be used in the deviation. This term generally refers to cabin interiors with passenger seating capacity significantly reduced from the max seating capacity per the aircraft’s Type Certificate (TC). This loose definition covers both commercial airliners with 20 or more passenger seating capacity at TC converted to a much lower seating capacity and (b) purpose built aircraft, not intended or suitable for scheduled operations, with an approved passenger seating capacity of less than 20 at TC, and which by their nature have relatively small cabins. Either of these aircraft types may be operated under non-commercial or commercial operational rules.

Since the formation of EASA, Deviations to the aisle width requirements of JAR/CS25.815 have been accepted for VIP type of cabin installations, but with a restriction to non-commercial operations.

The burden to both the industry and regulatory authorities in administering many such certification issues for VIP cabin installations has long been recognised and an EASA rulemaking activity was initiated in 2011 in order to better define and control the regulatory framework for such aircraft (RMT .0264).

This rulemaking activity has brought into focus the imperfectly defined and sometimes inconsistent approach of the past to many VIP cabin certification issues, aisle width compliance being just one of many.

In the case of in-flight aisle encroachment the situation is particularly problematic.

As already stated, EASA has been in the practice of issuing aisle width deviations for non-commercially operated aircraft, mainly for designs that are in fact VIP versions of large airliner airframes. Applications for such aircraft, with in-flight aisle encroachment, for commercial operations, have been refused.

However, the rulemaking activity, plus discussions surrounding one recent TC project for a 19 seat VIP aircraft have highlighted to EASA that in fact there have been many such smaller aircraft in service in Europe for many years, with in-flight aisle encroachment, and approved for commercial operations.

These designs were approved before EASA’s creation, in accordance with the varied practices in the EU member states. Due to the limitations of the small cabin size of these aircraft, appreciably new designs of moveable features, involving the need for reassessment of aisle width encroachment acceptability, have not occurred as regularly as with aircraft types with larger cabins, and thus the unbalanced situation has taken some time to emerge.

Although it is envisaged that the rulemaking activity will solve this inconsistent situation, there remains the immediate need to continue approving VIP cabin designs. Without a formal change in policy, due to recent awareness of past practices, EASA could be in the position of refusing to accept design concepts that in

the past have been accepted. Therefore EASA has decided to propose that the maturing position of the rulemaking activity be brought into play now.

In the absence of any reason to the contrary EASA is of the opinion that the starting point for interpretation of the text of JAR/CS25.815 should be as requiring the specified aisle width during all phases of operation.

However, after extensive debate in the rulemaking group a consensus has evolved as follows:

- It is agreed that the space available in smaller aircraft is not sufficient to permit the type of high comfort cabin arrangements required while at the same time maintaining the required aisle width dimensions during all phases of flight.
- There is no reason to alter the established practice of accepting in-flight aisle width encroachment (with a requirement that all parts of the cabin remain accessible) for non-commercial operations.
- The past somewhat inconsistent practice of accepting in-flight aisle width encroachment during commercial operations should be formalised (with the same requirement that all parts of the cabin remain accessible) but only up to a passenger capacity of 19.
- Although larger aircraft cabins in general do provide more flexibility and greater evacuation capability for a given passenger capacity and thus should in principle be able to more easily maintain the required aisle width throughout all flight phases, they are often operated in the same way as smaller aircraft and thus the deviation can apply equally.

It is to be noted that the rulemaking group deliberately do not attempt to use or define any terms such as “VIP”, or “Executive”. This is because, despite strenuous attempts in the rulemaking group, no such definitions could be found and continued use of such terms is neither considered helpful or necessary.

Treatment of In-Flight Aisle Width Encroachment by Other Authorities

FAA SFAR 109 was issued some years ago with a similar aim to reduce the burden of certificating VIP aircraft cabins.

The SFAR is currently still limited to non-commercial operations only, and in its Paragraph 11 allows the following:

“aisle width may be reduced to 0 inches width between passenger seats during in-flight operations only, provided that applicant demonstrates that all areas of the cabin are easily accessible by a crew member in the event of an emergency (e.g., in-flight fire, decompression)”.

This is consistent with the EASA practice discussed above of issuing deviations to non-commercially operated aircraft. The texts of the EASA deviations have had identical intent and effect to this SFAR wording.

More recently the FAA issued Policy Memo PS-ANM-25.815-01 (17 December 2012).

In summary the memo “allows the main passenger aisle of aircraft to be reduced to less than the minimum dimension required by 14 CFR 25.815 in flight” with several provisos, the significant ones being:

- *The airplane is not listed, or required to be listed, in any air carrier operations specifications for part 121 operations or clearly equivalent non-US operations.*
- *All areas of the cabin remain easily accessible in the event of an in-flight emergency (e.g., fire or decompression) with interior furnishings, such as seats and credenzas, that have fixed positions in the most adverse positions.*
- *The airplane is limited to 19 or fewer passengers.*

It is to be noted that this Policy Memo PS-ANM-25.815-01 allows some commercial operations (e.g. under Part 135) with a similar alleviation to the compliance method for the required aisle width as allowed by SFAR 109 for private operations.

Proposed Deviation

Until the on-going rulemaking process (RMT.0264) has been finalized, for Large Aeroplanes intended for commercial operations, with a passenger seating capacity of fewer than 20, deviation requests for the aisle to be reduced to less than the dimensions required by CS25.815, outside of the taxi, take-off and landing phases only, will be accepted provided:

- There is a cabin configuration that is fully compliant to CS25.815 that can be easily accomplished by naïve persons, considering appropriate associated placarding and operational briefing and procedures.
- The applicant demonstrates that all areas of the cabin remain accessible in the event of an emergency, without excessive effort or excessive loss of time, and for any combination of positions of the features which can be moved into the required aisle.
- Procedures must be established and documented in the AFM for restoring the aisle width for taxi, take-off and landing.

NOTE:

1. The demonstration required above does not need to include features such as lavatory doors, stowage compartment doors or seat armrest caps that can be considered to only move into the required aisle when open or while being operated. The demonstration may need to consider carriage of emergency equipment by the person(s) responding to the emergency. The assessment of “excessive” should be made by comparison to effort and loss of time for accessibility in the cabin configuration fully compliant with CS25.815.
2. The well-established practice of accepting such deviations for non-commercially operated aircraft, of any passenger capacity, remains unaltered.