Proposed: ⊠ Final □

Deadline for comments: 04 July 2025



# **Consultation Paper Special Condition UK.SC.D.0001 Issue 1**

SUBJECT: Installation of Mini-suite Type Seating Applicable to Twin Aisle

Large Aeroplanes

REQUIREMENTS: CS 25.813(e), CS 25.785 (h)(2), SC D-37

ASSOCIATED IM/MoC $^1$ : Yes  $\boxtimes$  / No  $\square$ 

ADVISORY MATERIAL: FAA AC 25-17A

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<sup>&</sup>lt;sup>1</sup> Associated Interpretative Material and/or Means of Compliance may be published for awareness only and they are not subject to public consultation.

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# **Introductory Note**

The UK CAA is undertaking the validation of a major change to type design on a large aeroplane which incorporates mini-suites in the business class cabin with a "moveable wall", which, when unstowed, offers greater accessibility to the mini-suite, requiring consideration of a Special Condition.

In accordance with UK CAA Design and Certification procedures, such SCs shall be assessed by the authority and be subject to a period of public consultation of not less than 2 weeks unless they have been previously agreed and published by the UK CAA.

All interested persons may submit their comments on this Special Condition Proposal online, 'Special Condition UK.SC.D.0001 Consultation'.

The consultation period will close on 04 July 2025.

The final decision shall be published by the UK CAA.

# **Acronyms and Abbreviations**

AC Aircraft

Amdt Amendment

CAA Civil Aviation Authority

CS Certification Specification

EASA European Union Aviation Safety Agency

EU European Union

Reg Regulation

PRM Passenger with Reduced Mobility

SC Special Condition

TC Type Certificate

UK United Kingdom of Great Britain and Northern Ireland

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#### Identification of Issue

UK CAA received an application for validation of a major change to type design on a large aeroplane.

The design change includes a new cabin interior arrangement, and introduces a mini-suite to the business class cabin which has aspects of the design offering greater accessibility for Passengers with Reduced Mobility (PRM) ("PRM Suite"). The key design aspect is that of a "moveable wall", which, when unstowed, offers greater accessibility to the mini-suite.

As with other mini-suites, complete enclosure can be achieved by stowing of the moveable wall, and repositioning of other partitions and/or door(s).

The proposed design could be seen as not meeting the following applicable Certification requirements for Large Aeroplanes, CS 25 up to Amdt 28:

CS 25.813(e) requires that:

No door may be installed in any partition between passenger compartments.

CS 25.785 (h)(2) requires that:

(h) Each seat located in the passenger compartment and designated for use during take-off and landing by a cabin crewmember required by the Operating Rules must be:

[...]

(2) To the extent possible, without compromising proximity to a required floor level emergency exit, located to provide a direct view of the cabin area for which the cabin crewmember is responsible.

Similar certification context was already experienced while installing "mini-suites" in business class or first class cabins on large aeroplanes (for instance A350<sup>2</sup>, B787<sup>3</sup>, etc ...).

The original Special Condition was consulted as "SC D-37" By EASA on 04 November 2016<sup>4</sup>.

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<sup>&</sup>lt;sup>2</sup> <u>UK CAA SC D-37 special-condition-on-installation-of-mini-suite-type-seating-applicable-to-airbus-a350issue-1.pdf</u>

<sup>&</sup>lt;sup>3</sup> https://www.easa.europa.eu/en/downloads/69925/en (Explanatory note: A.115 (IM) Boeing 787 — Issue 7)

<sup>&</sup>lt;sup>4</sup> Special Condition on Installation of mini-suite type seating - Applicable Airbus A350 | EASA

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The integration of a 'moveable wall' into a mini-suite, resulting in a "PRM Suite", is considered as having a novel design feature relative to design practices on which previous specifications applicable to mini-suites are based. This necessitates a review of the previous Special Condition.

Therefore, in application of point 21.B.75 of Part 21, CAA determined the need to prescribe special detailed technical specifications to ensure adequate retention of the moveable wall, as well as to ensure the installation of the moveable wall, or its operation during emergency evacuation, does not introduce any additional obstruction to evacuating passengers, including from other parts of the cabin.

Those original Special Condition requirements<sup>2,3,4</sup> are retained in the current proposed SC, with addition of requirements necessary to address the specificity of the "PRM Suite" movable walls.

The Special Condition that includes new or different requirements, compared to what was published by UK CAA and EASA in the past, are highlighted hereafter in grey highlight. Only these changes are the subject of the current consultation and the potential comments should only focus on those.

Considering all the above, the following Special Condition is proposed to complement CS-25 Amdt. 28 certification specifications:

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### Special Condition UK.SC.D.0001

#### Installation of Mini-suite Type Seating Applicable to Twin Aisle Large Aeroplanes

#### 1. APPLICABILITY

This Special Condition is applicable to large aeroplanes with twin-aisle interior arrangements, with mini-suites installed.

#### 1.1 RELATED CS

CS 25.813(e), CS 25.785 (h)(2) at Amendment 28

#### 2. SPECIAL CONDITION

In amendment of demonstrating compliance with the current related CS identified in paragraph 1.1 above, the actual design shall comply with the following special detailed technical specifications:

- 1. Only single occupancy of the mini-suite is allowed during taxi, take-off and landing.
- 2. The mini-suite entrance must only provide access to the specific mini-suite.
- 3. Mini-suites must not provide the required egress path for any passenger other than for its single occupant.
- 4. Installation of the mini-suites must not introduce any additional obstructions or diversions to evacuating passengers, even from other parts of the cabin.
- 5. The design of the doors and surrounding "furniture" above the cabin floor in the aisles must be such that each passenger's actions and demeanour can be readily observed by cabin crew members with stature as low as the 5th percentile female.
- 6. The mini-suite door(s) must be open during taxi, take-off and landing.
- A hold open retention mechanism for mini-suite doors must be provided and must hold the doors open under CS 25.561(b) emergency landing conditions.
- 8. There must be a secondary, backup hold open retention mechanism for the mini-suite doors that can be used to "lock" the doors in the open position if

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there is an electrical or mechanical failure of the primary retention mechanism. The secondary retention mechanism must hold the doors open under CS 25.561(b) emergency landing conditions.

- 9. There must be a means to readily check that all mini-suite doors are fully open and in the latched condition.
- 10. There must be means to prevent the seated mini-suite occupant from operating the doors and thus ensure that the doors remain open during the TTOL phases of flight.
- 11. Appropriate placards, or other equivalent means, must be provided to ensure the mini-suite occupants know that the doors must be in the open position for taxi, take-off and landing.
- 12. Operating instruction materials necessary to provide adequate compliance with SC 5, 9 and 10, considering also the number of individual mini-suites, shall be discussed and agreed with UK CAA and shall be provided to the operator for incorporation into their cabin crew training programs and associated operational manuals. This may affect the minimum acceptable number of cabin crew required to operate the aeroplane.
- 13. In the TT&L configuration, the mini-suite must provide an unobstructed access to the main aisle having a width of at least 30 cm (12 inches) at a height lower than 64 cm (25 inches) from the floor, and of at least 38 cm (15 inches) at a height of 64 cm (25 inches) and more from the floor. A narrower width not less than 23 cm (9 inches) at a height below 64 cm (25 inches) from the floor may be approved when substantiated by tests found necessary by the Authority.
- 14. In addition, the mini-suite must have an Emergency Passage Feature (EPF) to allow for evacuation of the mini-suite occupant in the event a door closes and becomes jammed during an emergency landing. The EPF must provide a free aperture for passage into the aisle consistent with SC 13 or meeting the requirements of CS 25.807 applicable to a Type IV size emergency exit.

If the EPF consists of frangible and/or removable elements they must be easily broken/removed by the occupant of the mini-suite when a door becomes jammed.

If an EPF consists of dual independent sliding doors opening in opposite directions, the remaining unobstructed access width with one door in the fully closed position must be consistent with SC 13 or meet the requirements of CS 25.807 applicable to a Type IV emergency exit.

The occupant of the mini-suite must be made aware of the EPF and its way of operation.

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In no case shall the occupant using the EPF have to rely on another occupant to assist in passage.

- 15. The height of the mini-suite walls and doors must be such that a 95th percentile male can fit between them and the aeroplane interior furnishing.
- 16. No mechanism to latch the door(s) in the closed position shall be provided.
- 17. The mini-suite door(s) must be openable from the inside or outside with 25 pounds force or less regardless of power failure conditions.
- 18. If the mini-suite doors are electrically powered, in the event of loss of power to the mini-suite with the door(s) open, the door(s) must remain latched in the open position.
- 19. The mini-suites installation must not encroach into any required main aisle, cross aisle or passage ways.
- 20. No mini-suite door may impede main aisle or cross aisle egress paths in the open, closed or translating position.
- 21. The mini-suite doors must remain easily openable, even with a crowded aisle.
- 22. The seat of the Cabin Crew responsible for a mini-suite area must be located to provide a direct view of the egress path from each mini-suite and of each main aisle adjacent to the mini-suites.

### Moveable Walls - if provided

- 23. Installation of the movable aisle wall must not introduce any additional obstructions or diversions to evacuating passengers, even from other parts of the cabin.
- 24. The movable aisle wall must be stowed during taxi, take-off, landing, and when not in use, with the retention mechanisms engaged.
- 25. There must be a primary and a secondary backup retention mechanism that locks the wall in the stowed position. The retention mechanisms must independently hold the wall under CS 25.561(b) emergency-landing conditions.
- 26. Either the primary or secondary retention-mechanism controls must be positioned such that a seated and belted passenger will not be able to operate them.

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- 27. Appropriate placards, or other equivalent means, must be provided to ensure that each movable aisle wall is stowed, with the retention mechanisms engaged, during taxi, take-off, landing and when not in use.
- 28. Training and operating instruction materials regarding the proper operation and configuration of the movable aisle wall shall be discussed and agreed with UK CAA and shall be provided to the operator for incorporation into their cabin crew training programs and associated operational manuals;
  - a. The training materials must instruct that the movable aisle wall is to be stowed immediately when not transferring a person of reduced mobility and for taxi, take-off, and landing.
  - b. The training materials must instruct that, during an emergency evacuation, the movable aisle wall is not to be deployed such that it prevents or obstructs the egress of any other evacuating passenger.
- 29. The height of the movable aisle wall must be such that a 95th percentile male can fit between it and the aeroplane interior furnishing.
  - a. It must be shown that a 5th percentile female and a 95th percentile male will be able to exit the mini-suite in the event the movable aisle wall is blocking the egress path of an adjacent suite.
  - b. This showing must be conducted for each different configuration incorporating mini-suites with movable walls and may be documented via test or similarity analysis to a previously tested configuration.
- 30. No mechanism to latch the movable aisle wall in the deployed position shall be provided.
- 31. The movable aisle wall must be stowed from the inside or outside with 25 pounds of force or less (regardless of power failure conditions, if applicable).

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# Interpretative Material to Special Condition UK.SC.D.0001

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- a. IM to SC requirement 13: The requirements related to the access to the aisle for the occupant of the mini-suite are consistent with the requirements of CS 25.815 applicable to the 10 passengers or less seating capacity case and apply regardless of the number of mini-suites installed on the aeroplane. Permanent deformations of seats/ furniture/doors bounding the access to the aisle must be taken into account in the assessment, considering the inertia loads specified in CS 25.561, and, for seats, in CS 25.562.
- b. IM to SC requirement 14: The EPF required by SC requirement 14 should be available in every position in which the door may jam, unless an opening meeting SC requirement 13 remains available without using the EPF.

A smaller aperture than that specified in SC requirement 14, combined with an assessment of the possibility for an occupant to exit the suite by climbing over the surrounding wall (considering critical human physical abilities) might be considered acceptable. Use of this compliance approach must first be discussed and agreed with the Authority.

The design of the mini-suites will be reviewed to determine if a range of occupants can climb over the walls of the mini-suite and enter the aisle with acceptable ease and safety. Worst case permanent deformations resulting from required static and dynamic loading conditions of the components that will be used as steps, handholds etc. will need to be simulated or accounted for.

The number and size of occupants and variations in their physical strengths/abilities, to be considered in the evaluation of ease and safety of egress, will be those expected to be most critical, taking into account the geometry of the items to be negotiated and the free space provided for maneuver, and will be determined by the Authority.

c. IM to SC requirement 3: When all suite egress path obstructions are removed, the suite should not provide a required evacuation path for a passenger not coming out of the suite. No passage through the suite should be an evacuation path for passengers. Nevertheless, in the case of two adjacent suites, which are only separated by low furniture that may easily be climbed over, it is not necessary to provide means to forbid access to the adjacent suite. This however does not allow to count the adjacent suite access as one of the egress path required per SC requirements 13 and 14.

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# Means Of Compliance to Special Condition UK.SC.D.0001

The associated Means of Compliance is published for awareness only and is not subject to public consultation.

- 1. MOC to SC requirement 22. The Means of Compliance to demonstrate compliance to this Special Condition requirement of Cabin Crew direct view of the mini-suite area may be based on one of the two criteria defined below. Airplane level (and remaining zone) direct view requirements apply to the remainder of the cabin and exclude the mini-suite cabin area. Note that mirrors may be proposed, however the visibility should then be enhanced beyond the minimum requirements outlined below. In determining compliance, Cabin Crew head movement should be consistent with the documented current model MOC.
  - i. The length of each main aisle adjacent to the suite must be visible at least to the point of the entrance area of the last suite enclosure. An aisle is considered visible if at least 50% of the width of the aisle is visible.
  - ii. At least 80% of the suite entrances must be visible. An entrance is considered visible, if a person standing in the aisle at the suite entrance is observable, considering a body depth of 12".

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