

## Comment-Response Document for Boeing 777-200 SC F-01

Commenter	Comment	EASA position
Boeing Commercial Airplanes	<p><b>1- General Comment :</b></p> <p>The 777-200 has been certified by the FAA (Type certification data sheet No. T00001SE) and validated by the JAA ( data sheet No. JAA/25/95-013). Boeing has installed and delivered 777-200 airplanes that have main deck crew rests as part of the interior configuration. For example, AFA WB311, AAL WB416, SVA</p> <p>WB276 have two persons bunks located between the flight deck and door #1 LH and SIA WB201 has a single person bunk located in the centreline area of door # 3. All of these crew rests were certified without the need of a special condition by either the FAA or the JAA.</p> <p>By consequence, Boeing considers there is no need for special conditions on this subject, and questions the justification behind issuing these proposed ones.</p>	EASA does not agree that the lack of special conditions in the past is sufficient justification to avoid their use now. It is EASA’s standard policy to issue special conditions for crew rest areas.
Boeing Commercial Airplanes	<p><b>2- Comment against SC Statement of Issue :</b></p> <p>As the certification basis for the 777-200 is JAR change 13, as identified in JAR 25 Aeroplane data Sheet JAA/25/95-013, Boeing requests that “ ... <i>Special conditions are required for the certification of CRC to</i></p>	Agreed, text will be changed as suggested.

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	<p><i>supplement CS 25 at Amdt 3.</i>” be revised to “JAR Change 13”.</p>	
Boeing Commercial Airplanes	<p><b>3- Comment against SC Paragraph 1(b) :</b></p> <p>Boeing requests that EASA removes this requirement from the special condition.</p> <p>The addition of ashtrays should not be required for crew rest compartments because CRCs are limited to trained crew. Crew-only facilities need not be controlled in the same manner as passenger facilities (i.e., lavatories).</p>	<p>Boeing request to remove ashtrays has been discussed on several similar projects. At this time, in consultation with the FAA, the consensus is that an ashtray should be retained.</p>
Boeing Commercial Airplanes	<p><b>4- Comment against SC Paragraph 3(f) :</b></p> <p>The need for this demonstration for a main deck crew rest compartment is unclear. Boeing requests this requirement be removed from the special condition or clarification of the justification for it be added.</p> <p>The evacuation of an incapacitated person from a main deck crew rest compartment would be no different from the evacuation of a passenger from a row of seats. The design of the crew rest includes two doors that provide a clear opening into each main aisle and can provide an even easier removal of an incapacitated person than from a seat row. Additionally, the crew rest is limited such that there is no occupancy for taxi,</p>	<p>EASA considers that Boeing comment is acceptable. However EASA considers that the comment relates to the MOC of SC 3(f). Furthermore EASA wishes to maintain the SC related to all crew rest in a generic format as much as possible. Therefore, while EASA is prepared to favorably look at an applicant answer along Boeing argumentation, no change to the SC3(f) is proposed.</p>

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	takeoff, and landing, which prevents any injury potential to the crew during those phases of flight.	
Boeing Commercial Airplanes	<p><b>5- Comment against SC Paragraph 4 :</b></p> <p>Boeing notes that the specified conditions are not appropriate for a small two-bunk main deck crew rest compartment occupied by trained crew. Boeing requests this special condition be removed.</p> <p>The main deck crew rest is a crew-only facility, which has the limitation of no occupancy for taxi, takeoff, and landing. The operation of the door would be part of the crew training and, as such, there would be no need for door operating instructions. The design of the main deck crew rest, which puts crew members in close proximity to the crew rest door; the training received; and the fact that there is only one exit, would preclude the need for an exit sign.</p>	<p>ESA disagrees with Boeing comment and considers that exit signs are information which need to be available to all occupants. Therefore EASA does not propose any change to SC 4.</p>
Boeing Commercial Airplanes	<p><b>6- Comment against SC Paragraph 6 :</b></p> <p>Boeing requests the following wording “<i>The system must be powered in flight, after the shutdown or failure of all engines and auxiliary power units (APU), for a period of at least ten minutes.</i>” be removed. The need for such a requirement to be levied on a main deck crew rest is unclear.</p>	<p>Boeing comment is acknowledged and EASA agrees that there is a different level of risk associated with emergency situations for crew members occupying a main deck versus a remote crew rest facility. In its generic policies on crew rest, EASA has accounted for this aspect by requiring on remote, typically overhead, crew rest “two-way voice communications between crewmembers on the flight deck and occupants of the CRC and also each flight attendant station”. This feature is not required</p>

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	<p>This is a main deck crew rest occupied by trained crew with occupancy limited to in-flight only. In the unlikely event of a shutdown or failure of all engines and APU, the crew rest is in close proximity to flight attendant locations, who could contact the occupants of the crew rest and have access to cabin interphones. This requirement has been applied in the past on special conditions for isolated crew rests, such as an overhead or lower lobe crew rest, but not main deck crew rests.</p>	<p>in the current special condition CRI F01 under discussion. Such differentiation of communication level being made, it is considered that it should be equally maintained under engine failure. This position has been already applied on previous projects. The current submission to public comment was not motivated by any change to this condition. EASA does not however consider that this position has been entirely resolved, in particular for main deck flight crew rest, and may propose, in the future, amendment to this requirement along Boeing argumentation.</p>
Boeing Commercial Airplanes	<p><b>7- Comment against SC Paragraph 8 :</b></p> <p>Boeing considers that this paragraph is too restrictive and the requirement should be revised to allow other means of providing a handhold besides a handgrip or rail.</p> <p>The design of the main deck crew rest is such that the crew rest wall itself can provide a means of steadying oneself in turbulence, as well as the crew bunks.</p>	<p>EASA agrees with Boeing understanding that handhold can be provided by features which are not necessarily dedicated to handhold function. EASA considers that the current Special Condition 7 text is sufficiently non restrictive to allow such interpretation.</p>
Boeing Commercial Airplanes	<p><b>8- Comment against SC Paragraph 9 :</b></p> <p>Boeing’s understanding is that, as long as the equipment is readily available and in close proximity to the crew rest, the equipment does not need to be located inside the main deck crew rest. Boeing requests confirmation of this understanding.</p>	<p>EASA considers that Boeing understanding is acceptable. However EASA considers that the comment relates to the MOC of SC 9. Furthermore EASA wishes to maintain the SC related to all crew rest in a generic format as much as possible. Therefore, while EASA is prepared to favorably look at an applicant answer along Boeing argumentation, no change to the SC9 is proposed.</p>

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	<p>Confirmation of Boeing's understanding would prevent the installation of unneeded emergency equipment if conditions of accessibility are met. This would limit cost and complexity of the crew rest.</p>	
<p>Boeing Commercial Airplanes</p>	<p><b>9- Comment against SC Paragraph 11(b) :</b></p> <p>Boeing requests that this requirement be removed. This requirement is not applicable for a one- or two-bunk main deck crew rest.</p> <p>Unique fire-fighting procedures are not required for a main deck crew rest as they would be for an isolated crew rest, such as an overhead crew rest or lower lobe crew rest. The design of the main deck crew rest provides easy access and the fire fighting procedures should be no different from those used to fight a lavatory or galley fire.</p>	<p>ESA disagrees with Boeing comment and considers that the door creates an isolated space which requires unique fire detection and fire fighting procedures. Therefore EASA does not propose any change to SC11(b).</p>