

Boeing Commercial Airplane Group apply at a later date for a change to the type certificate to include another model incorporating the same novel or unusual design features, the special conditions would apply to that model as well under the provisions of § 21.101(a)(1) Amendment 21-69, effective September 16, 1991.

List of Subjects in 14 CFR Part 25

Aircraft, Aviation safety, Reporting and recordkeeping requirements.

■ The authority citation for these special conditions is as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701, 44702, 44704.

The Special Conditions

Accordingly, pursuant to the authority delegated to me by the Administrator, the following special conditions are issued as part of the type certification basis for Boeing Model 777 series airplanes with overhead crew rest compartments. These special conditions apply to both overhead flight crew rest (OFCR) compartments and/or overhead flight attendant rest (OFAR) compartments, unless specifically stated otherwise.

1. Occupancy of the overhead crew rest compartment is limited to the total number of installed bunks and seats in each compartment. There must be an approved seat or berth able to withstand the maximum flight loads when occupied for each occupant permitted in the overhead crew rest compartment. The maximum occupancy is four in the OFCR and twelve in the OFAR.

(a) There must be appropriate placards, inside and outside each entrance to the overhead crew rest compartment to indicate:

(1) The maximum number of occupants allowed,

(2) That occupancy is restricted to crewmembers that are trained in the evacuation procedures for the overhead crew rest compartment,

(3) That occupancy is prohibited during taxi, take-off and landing, and

(4) That smoking is prohibited in the overhead crew rest compartment.

(b) There must be at least one ashtray on the inside and outside of any entrance to the overhead crew rest compartment.

(c) There must be a means to prevent passengers from entering the overhead crew rest compartment in the event of an emergency or when no flight attendant is present.

(d) There must be a means for any door installed between the overhead crew rest compartment and passenger cabin to be capable of being quickly

opened from inside the compartment, even when crowding occurs at each side of the door.

(e) For all doors installed, there must be a means to preclude anyone from being trapped inside the overhead crew rest compartment. If a locking mechanism is installed, it must be capable of being unlocked from the outside without the aid of special tools. The lock must not prevent opening from the inside of the compartment at any time.

2. There must be at least two emergency evacuation routes, which could be used by each occupant of the overhead crew rest compartment to rapidly evacuate to the main cabin and be able to be closed from the main passenger cabin after evacuation. In addition'

(a) The routes must be located with sufficient separation within the overhead crew rest compartment, and between the evacuation routes, to minimize the possibility of an event rendering both routes inoperative.

Compliance to the requirements of Special Condition No. 2(a) may be shown by inspection or by analysis. Regardless which method is used, the maximum acceptable exit separation is 60 feet measured between exit openings.

Compliance by Inspection

An overhead crew rest compartment in which the evacuation routes are located such that each occupant of the seats and berths has an unobstructed route to at least one of the evacuation routes regardless of the location of a fire would be acceptable by inspection. A fire within a berth that only blocks the occupant of that berth from exiting the berth need not be considered. Therefore, exits which are located at absolute opposite ends (*i.e.*, adjacent to opposite end walls) of the crew rest would require no further review or analysis with regard to exit separation.

Compliance by Analysis

Analysis must show the overhead crew rest compartment configuration and interior features provide for all occupants of the overhead crew rest to escape the compartment in the event of a hazard inside or outside of the compartment. Elements to consider in this evaluation are as follows:

(1) Fire inside or outside the overhead crew rest compartment considered separately and the design elements used to reduce the available fuel for the fire,

(2) Design elements to reduce the fire ignition sources in the overhead crew rest compartment,

(3) Distribution and quantity of emergency equipment within the overhead crew rest compartment,

(4) Structural failure or deformation of components that could block access to the available evacuation routes (*e.g.*, seats, folding berths, contents of stowage compartments, etc),

(5) An incapacitated person blocking the evacuation routes,

(6) Any other foreseeable hazard not identified above that could cause the evacuation routes to be compromised.

Analysis must consider design features affecting access to the evacuation routes. The design features that should be considered include but are not limited to seat back break over, the elimination of rigid structure that reduces access from one part of the compartment to another, the elimination of items that are known to be the cause of potential hazards, the availability of emergency equipment to address fire hazards, the availability of communications equipment, supplemental restraint devices to retain items of mass that could hinder evacuation if broken loose and load path isolation between components that contain the evacuation routes.

Analysis of the fire threats should be used in determining the placement of required fire extinguishers and PBEs and should take into consideration the possibility of fire in any location in the overhead crew rest compartment. The location and quantity of PBEs and fire extinguishers should allow occupants located in any approved seats or berths access to the equipment necessary to fight a fire in the overhead crew rest compartment.

The intent of this special condition is to provide sufficient exit separation, therefore the exit separation analysis described above should not be used to approve exits which have less physical separation (measured between the centroid of each exit opening) than the minimums prescribed below, unless compensating features are identified and submitted to the FAA for evaluation and approval.

For overhead crew rest compartments with one exit located near the forward or aft end of an overhead crew rest compartment (as measured by having the centroid of the exit opening within 20 percent of the forward or aft end of the total overhead crew rest compartment length) the exit separation should not be less than 50 percent of the total overhead crew rest compartment length.

For overhead crew rest compartments with neither required exit located near the forward or aft end of the overhead crew rest compartment (as measured by