

**DEPARTMENT OF TRANSPORTATION****Federal Aviation Administration****14 CFR Part 25**

[Docket No. FAA-2007-28250, Notice No. 07-13]

RIN 2120-A161

**Special Requirements for Private Use Transport Category Airplanes****AGENCY:** Federal Aviation Administration (FAA), DOT.**ACTION:** Notice of proposed rulemaking (NPRM).

**SUMMARY:** This proposal would amend the airworthiness standards for transport category airplanes by adding new cabin interior criteria for operators of private use airplanes. These standards may be used instead of the specific requirements that affect transport category airplanes operated by air carriers. The proposed standards would supplement the requirements for operation under the air traffic and general operating rules. This proposal is intended to provide alternative criteria for transport category airplanes that are operated for private use while continuing to provide an acceptable level of safety for those operations.

**DATES:** Send your comments on or before October 11, 2007.**ADDRESSES:** You may send comments identified by Docket Number FAA-2007-28250 using any of the following methods:

- *DOT Docket Web site:* Go to <http://dms.dot.gov> and follow the instructions for sending your comments electronically.

- *Government-wide rulemaking Web site:* Go to <http://www.regulations.gov> and follow the instructions for sending your comments electronically.

- *Mail:* Send comments to the Docket Management Facility; U.S. Department of Transportation, 1200 New Jersey Avenue, SE., West Building Ground Floor, Room W12-140, Washington, DC 20590.

- *Fax:* Fax comments to the Docket Management Facility at 202-493-2251.

- *Hand Delivery:* Bring comments to the Docket Management Facility in Room W12-140 of the West Building Ground Floor at 1200 New Jersey Avenue, SE., Washington, DC, between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

For more information on the rulemaking process, see the **SUPPLEMENTARY INFORMATION** section of this document.

*Privacy:* We will post all comments we receive, without change, to [http://](http://dms.dot.gov)

[dms.dot.gov](http://dms.dot.gov), including any personal information you provide. Using the search function of our docket Web site, anyone can find and read comments received into any of our dockets, including the name of the individual sending the comment (or signing the comment for an association, business, labor union, etc.). You may review DOT's complete Privacy Act Statement in the **Federal Register** published on April 11, 2000 (65 FR 19477-19478).

*Docket:* To read background documents or comments received, go to <http://dms.dot.gov> at any time or to the Document Management Facility in Room W12-140 of the West Building Ground Floor at 1200 New Jersey Avenue, SE., Washington, DC, between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

**FOR FURTHER INFORMATION CONTACT:** For technical questions concerning this proposed rule, contact Alan Sinclair, Airframe and Cabin Safety Branch (ANM-115), Transport Airplane Directorate, Aircraft Certification Service, 1601 Lind Avenue, SW., Renton, Washington 98057-33566; telephone (425) 227-2195, facsimile (425) 227-1320; e-mail: [alan.sinclair@faa.gov](mailto:alan.sinclair@faa.gov). For legal questions concerning this proposed rule, contact Douglas Anderson, Office of Regional Council (ANM-7), 1601 Lind Avenue, SW., Renton, Washington 98057-33566; telephone (425) 227-2166; facsimile (425) 227-1007; e-mail: [douglas.anderson@faa.gov](mailto:douglas.anderson@faa.gov).

**SUPPLEMENTARY INFORMATION:** Later in this preamble under the Additional Information section, we discuss how you can comment on this proposal and how we will handle your comments. Included in this discussion is related information about the docket, privacy, and the handling of proprietary or confidential business information. We also discuss how you can get a copy of this proposal and related rulemaking documents.

**Authority for This Rulemaking**

The FAA's authority to issue rules on aviation safety is found in Title 49 of the United States Code. Subtitle I, Section 106 describes the authority of the FAA Administrator. Subtitle VII, Aviation Programs, describes in more detail the scope of the agency's authority.

This rulemaking is promulgated under the authority described in Subtitle VII, Part A, Subpart III, Section 44701, "General requirements." Under that section, the FAA is charged with prescribing regulations promoting safe flight of civil aircraft in air commerce by prescribing minimum standards

required in the interest of safety for the design and performance of aircraft; regulations and minimum standards in the interest of safety for inspecting, servicing, and overhauling aircraft and regulations for other practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This regulation is within the scope of that authority because it prescribes new safety standards for the design and operation of transport category airplanes.

**Background**

Transport category airplanes are required to comply with the standards of Title 14 Code of Federal Regulations (14 CFR) part 25 to be eligible for a type certificate (TC) in this category. To the extent considered appropriate for safety, part 25 requirements contain different provisions based on passenger capacity discriminants. These requirements do not distinguish between airplanes operated in air carrier service and airplanes operated for private use. Aviation industry representatives have stated that the part 25 standards are written with only air carrier operation in mind, and have questioned whether the one level of airworthiness requirement for transport category airplanes is, in fact, appropriate for all types of operation. These proposals address airworthiness standards related to cabin interiors for transport category airplanes in private use passenger operation. These proposals would add new cabin interior criteria for operators of private use airplanes. These standards may be used as an alternative to specific requirements that affect transport category airplanes under the air traffic and general operating rules. These proposals would continue to provide an acceptable level of safety for those operations.

No cost is associated with these proposals, which are a voluntary alternative means for certifying the cabin of transport category private use airplanes. People who choose to use the alternative means may incur minor incremental costs for more fire extinguishers, cooktop design criteria, and a potential cost for a flight attendant, compared to the existing cabin certification method. The established potential benefit of these proposals is time and cost savings to the cabin certification process.

With limited exception, the type certification (TC) requirements for transport category airplanes have historically been separate from, and independent of, operational standards. That is, the type certification requirements do not consider the type of

operation intended for the airplane. Title 14 CFR 91.501(b) describes operational requirements for large and turbine powered multi-engine airplanes not required to be operated under 14 CFR parts 121 and 135.

To get a TC, transport category airplanes must comply with part 25. To the extent considered appropriate for safety, part 25 requirements contain differences based on passenger capacity discriminants, but do not distinguish between airplanes operated in air carrier service and airplanes operated in private use.

The aviation industry has asked the FAA to consider differentiating between the airworthiness requirements related to cabin interior for different types of operation. Title 49 United States Code (49 U.S.C. 44701(d)) directs the FAA to consider differences between air transportation and other air commerce. The provision does not require the FAA to adopt regulations that always provide a higher level of safety for air carriers than for other operations. It does, however, establish the principle that our regulations should establish a higher level of safety for air carriers whenever we determine that it is appropriate to do so. This proposal is intended to address the issue as applicable to airworthiness standards related to cabin interiors for transport category airplanes in private use passenger operations.

### General Discussion of the Proposal

#### *Regulatory Development*

Some design standards for transport category airplanes differ based on passenger capacity. Often these standards were adopted based on the need to improve the safety of air carrier operations. Historically, most airplanes operated in non-air carrier operations have been smaller transport category airplanes, with low passenger capacities. In recent years, the number of large transport category airplanes operated in non-air carrier operation has increased substantially. The requirements for crashworthiness and cabin safety for all sizes of transport category airplanes have evolved so much in the last 20 years that the burden of compliance is now more significant. Since non-air carrier operation airplanes typically have customized interiors, the costs associated with certification of a specialized airplane interior cannot be amortized over many airplanes the way

that an ordinary interior is for air carrier operators. When the requirements were less stringent, cost was not a significant issue. Under the current regulations, however, the cost of interior certification has become significant.

The FAA proposes to provide alternative criteria for part 25 transport category airplanes that are used only in private use. The proposal covers airplanes that are *not* operated for compensation or hire or offered for common carriage. We define a common carrier as a carrier that “holds itself out” to the public or to a part of the public, as willing to provide transportation within the limits of its facilities. Common carriage (e.g., a commercial operator or air carrier) is discussed in Advisory Circular (AC) 120–12A, “Private Carriage Versus Common Carriage of Persons or Property.”

The FAA has thoroughly reviewed all associated design and operational requirements in part 25. This review was an effort to determine differences in mode of operation and airplane size to determine whether alternative standards for cabin interiors are viable for transport category airplanes operated only for private use. Based on this review, the FAA is proposing requirements that may not provide the same level of safety as that afforded occupants of transport category airplanes operated by air carriers. Nevertheless, the FAA has tentatively determined that the level of safety that would be provided is sufficient given the operating environment and the current cost of compliance. These proposals relate to cabin safety issues only. These issues include firm handholds throughout the airplane cabin, passenger injury criteria for side facing seats, flight attendant direct view of the cabin, passenger information signs, emergency exit locations and markings, interior compartment doors, aisle widths, material flammability compliance, fire detection, cooktops and fire extinguishers. The airplanes that would be certificated under this proposal may not meet all current part 25 standards. The proposal will, however, continue to provide an acceptable level of safety because the overall level of safety addressed by part 25 has continually increased over the years. Additionally, this proposal does not relax rules for the overall structural requirements of the airplane.

In developing these proposals, the FAA reviewed all the current type

certification standards. The FAA also reviewed standards that had been proposed in the 1970s for a “new part 24.” That proposal offered an intermediate classification between transport (part 25) and small (part 23) airplanes. The FAA also reviewed the differences among the 14 CFR parts 91, 121, 125 and 135 operating rules.

In considering why requirements for private use airplanes could be different from commercial airplanes, the FAA identified the following potential factors:

*Airplane size.* The physical size of the airplane might dictate the proximity of passengers to exits, accessibility of equipment, and ability of the crew to communicate with the passengers, as well as other factors. Privately operated airplanes have traditionally been the smaller transport category airplanes subject to certification to transport standards. Many are only nominally heavier than the weight threshold currently specified in § 23.3. In airplanes of this size, passengers are already near exits and the emergency equipment is usually near the passengers’ seats. In recent years, however, the size of private use airplanes has grown to include all transport category airplanes up to the largest airplanes produced. Therefore, it is not possible to base standards on the assumption that private use airplanes will continue to be physically small. However, to the extent it makes sense to do so, the requirements proposed here account for the physical size of the airplane.

*Passenger capacity.* The passenger capacity of the airplane might be significantly reduced in private use from that typically found in air carrier operation. Corresponding to airplane size, private use airplanes have traditionally had low passenger capacities. A maximum capacity of 9 or 19 is typical, with actual seating arrangements often being much lower.

The move to larger transport category airplanes for private use has allowed accommodation of higher passenger capacities while preserving a high level of comfort. In reviewing the current standards applicable to airplane interior considerations based on airplane passenger capacity, passenger capacity influences many interior configuration regulations contained in part 25. (See Table.)

PASSENGER CAPACITY DISCRIMINANTS

Regulation Part 25, Section	Passenger capacity						
	9 seats or less	10 seats or less	10 seats or more	19 or fewer	20 or more	More than 20	More than 44
25.772 Pilot compartment doors .....	.....	.....	.....	.....	.....	X	.....
25.787 Stowage compartments .....	.....	.....	X	.....	.....	.....	.....
25.803 Emergency evacuation .....	.....	.....	.....	.....	.....	.....	X
25.807* Emergency exits .....	.....	.....	.....	.....	.....	.....	.....
25.812 Emergency lighting .....	X	.....	X	.....	.....	.....	.....
25.813 Emergency exit access .....	.....	.....	.....	X	X	.....	.....
25.815 Width of aisle .....	.....	X	.....	X	X	.....	.....
25.851* Fire extinguishers .....	.....	.....	.....	.....	.....	.....	.....
25.853 Compartment interiors .....	.....	.....	.....	.....	X	.....	.....
25.854 Lavatory fire protection .....	.....	.....	.....	.....	X	.....	.....

\* These regulations have progressive requirements based on passenger capacity.

The FAA also notes an inconsistency in application of the standards. There is no common passenger discriminant criterion for differentiating among passenger capacities. For example, § 25.772, Pilot compartment doors, applies a threshold of “more than 20 seats,” while other rules, such as § 25.815, Width of aisle, establishes an applicability threshold at 19 passengers. The FAA cannot find a technical rationale for this difference. We also cannot find a technical rationale for the difference of the use of the term “20 or more” or “more than 20” to describe the break point. We are however proposing some changes to the part 25 standards in this action. Also, the passenger capacity-to-exit ratio may be favorable for some private use airplanes, resulting in further flexibility under this proposal.

*Passenger familiarity.* For private use airplanes, many passengers will likely use the same airplane frequently and, presumably, be more familiar with its interior features than the general public would be with the myriad of commercial airplane interiors. Therefore, the private use passengers’ ability to use equipment, and knowledge of exit operation of a specific airplane, is generally presumed to be more sophisticated than the general public’s. Passenger familiarity is a matter of particular concern to the FAA because at least some passengers will be unfamiliar with the airplane’s safety features. However, because of the small number of passengers, the operators can provide a more detailed safety briefing than is typical on commercial flights. Additionally, since most passengers will most likely be frequent passengers, the overall safety awareness of the passenger complement is likely to be higher than that for air carrier operations.

*Reduced frequency of operation.* The likelihood of an accident is lower in the

aggregate the less often the airplane flies, although the likelihood per flight may be the same. However, under the current regulations, an accident is a presumed condition for cabin safety, and the low likelihood of an accident cannot be used to argue in favor of reduced or eliminated requirements. This philosophy is bolstered by the FAA’s review of accident data for transport category airplanes in private use and commercial use, which did not reveal any differences warranting different requirements based on flight frequency.

*Obligation to provide the highest level of safety.* The distinction between private use airplanes and those held out for the commercial category of passengers is not unique. Building standards differ between publicly occupied and used structures and private homes; standards for cruise ships differ from those for pleasure craft. In large part, the current aviation operating rules recognize this, and the standards for operation under part 91 differ from those in part 121. Persons flying on air carrier airplanes expect that the operator is maintaining and operating the airplane at the highest level of safety and further expect that the FAA is enforcing common standards for such operations. Conversely, a person operating his or her own airplane is ultimately responsible for his or her own safety and compliance with the regulations. Owners’ expectations are that the airplane conforms to its type design requirements as received; after that, it is incumbent on the owner/operator to maintain the airplane.

There are also some areas where private use airplanes differ significantly from air carrier transport airplanes, and where the existing requirements are inadequate. In particular, private use airplanes tend to be compartmentalized with some of the compartments sporadically occupied during flight. In

these cases, there is a potential for a fire in these compartments to grow undetected by passengers or crew. The materials used in these airplanes often do not meet the latest standards for heat release and smoke emissions. Therefore, the fire would grow faster than it would if the latest standards for material were met. As a result, the threat from fire is greater in a private use airplane than in an air carrier transport airplane. Therefore, the FAA has tentatively determined that added fire detection requirements are needed for private use airplanes and the number of installed fire extinguishers should correlate with the overall fuselage size as well as with the number of passengers.

Another area where the current requirements may not be adequate is the installation of certain non-required, non-essential equipment. This equipment is typically either multi-media entertainment electronics, such as videocassette recorders and compact disk players, or galley systems, such as cooktops and cookware, not covered by the existing regulations. While the FAA has issued advisory material related to non-required, non-essential equipment, that advisory material cannot mandate new requirements. In the past, the FAA has adopted special conditions for these types of installations. However, because of their prevalence, we are proposing new standards to address these types of equipment to avoid common and routine applications for special conditions.

**Discussion of Proposed Regulatory Requirements**

*Applicability*

This proposal applies to airplanes operated in private use and that have a type certificate, or which are the subject of a pending application for type certificate. The type certificate establishes the overall airworthiness of the airplane and ensures that airplanes

approved under this part have a consistent level of safety. An airplane operating under the proposed requirements would have to be modified to comply with all applicable provisions of part 25 before it could enter air carrier or other for-hire common carriage service.

It is expected that most applications for approval under this proposal would be for airplanes that have recent certification bases and are of the sizes commonly used in air carrier service. However, as this proposal is not limited to those airplanes, it would be possible for airplanes with older certification bases as well as smaller transport category airplanes to get approval under this proposal.

### Design Requirements

#### *Firm Handholds*

What is the underlying safety issue addressed by the current requirement?

Section 25.785 is intended to enable passengers and crew to steady themselves in the aisles as they move about the cabin, in moderate turbulence. It prescribes how an applicant complies (hand grip or rail) and narrowly defines where firm handholds are required (only in aisles). The FAA considers the seatbacks of the seats that border the main aisles sufficient to act as a handrail if a breakover resistance of at least 25 pounds is provided. Other acceptable handholds include handrails along the sidewalls or near the sidewall stowage compartments.

What concerns have private use applicants expressed about compliance with the current requirement?

The interior configurations needed by the applicants (e.g., meeting areas, bedrooms, staterooms and entertainment rooms) do not lend themselves to providing a constant handhold arrangement. Because of the size of these rooms, a handrail around the perimeter would be ineffective, providing little help, considering all the locations where people could be standing or moving about.

How has the FAA addressed those concerns?

The FAA has issued exemptions when requesters have shown there is no practical way to provide a useful handhold while maintaining the needed interior arrangement.

How does the NPRM propose to address the concerns?

This proposal would allow areas of the passenger cabin to be without firm

handholds provided cabin aisles are provided with firm handholds.

The level of safety is marginally reduced by this proposal. However, the FAA has tentatively determined that a small reduction in risk is acceptable for the private use airplanes because of their limited passenger capacities, the minimal flight hours, and the passengers' familiarity with the airplane.

#### *Side-Facing Seats/Divans*

What is the underlying safety issue addressed by the current requirement?

Section 25.562, promulgated by Amendment 25-64, provides for both dynamic test conditions and occupant injury pass/fail criteria to improve occupant protection under realistic conditions (53 FR 17640, May 15, 1988). The FAA believes the dynamic test conditions, both for pulse severity and for types of tests currently required, are also representative of an accident, and therefore not dependent on seat orientation. We believe for pass/fail criteria, however, the orientation of the seat may be significant. Injury criteria are limited to head impact and spinal and femur compression loads. Head injury criteria are measured at any airplane interior installations that the head of a seated occupant could impact. The lumbar spinal load is an axially compressive load. The femur load is also compressive, and has not proven to be critical so far.

The critical injury parameters for a side-facing seat are not the same as for forward-or rear-facing seats since the direction of impact is different. For these seats, critical injuries could also result from body-to-body contact or body-to-structure contact. In addition, because of the different orientation of the body, injury may result from differences in thoracic, pelvic, and shoulder load under various accident scenarios.

The current regulations may not adequately address injury criteria for occupants of side-facing seats. The best criteria currently available for multiple occupancy seating may not provide a level of safety for those occupants of side-facing seats equal to that provided for the occupants of forward-or rear-facing seats.

What concerns have private use applicants expressed about compliance with the current requirement?

Side-facing seating has long been a standard feature of private use airplanes because it is often a more efficient way of providing the needed seating capacity. In addition, the use of

multiple occupancy side-facing seats provides for an in-flight berth capability. Operators of airplanes with Amendment 25-64, in the TC basis, complain that they are at a disadvantage to operators with airplanes that do not have Amendment 25-64 in the TC basis.

How has the FAA addressed those concerns?

The FAA issued exemptions with a list of conditions to allow the use of side-facing seats. The conditions provide an acceptable, but not equivalent, level of safety.

How does the NPRM address the concerns?

Like current exemptions, this proposal would require dynamic testing and measurement of injury criteria to the extent that the FAA can currently define rational criteria for passenger-to-passenger body contact, passenger body-to-wall/furnishing contact, thoracic trauma, and pelvic injuries. The proposed criteria are drawn from the automotive standards for side impacts and research done by the FAA Civil Aeromedical Institute. The FAA will continue to conduct and sponsor research to develop standards that provide an equivalent level of safety, so such seats could be used on any transport category airplane, if appropriate.

The FAA is actively researching the injury mechanisms, and means of quantifying them, appropriate for side-facing seats. However, recognizing that this effort may take years to complete, this proposal will allow for installation of side-facing seats that may not provide the same level of safety that was intended by the current part 25 requirements. It is important to note, however, that the requirements proposed in this notice provide an improved level of safety over that provided by the regulations before Amendment 25-64.

#### *Flight Attendant Direct View*

What is the underlying safety issue addressed by the current requirement?

Section 25.785(h)(2) is intended to provide the flight attendants with the capability to monitor problems in the passenger cabin during critical phases of flight. Because the compartmentalization of cabins typically found in private use airplanes makes "direct view" all but impossible, § 25.785(h)(2) requires the flight attendant seat be located so the occupant can have direct view of the cabin area for which he or she is responsible.

What concerns have private use applicants expressed about compliance with the current requirement?

The configurations of private use airplanes are such that the interior is divided into individual compartments and rooms for the sake of privacy. These configurations significantly decrease the direct view of the flight attendant. The owners/operators of these private use airplanes have argued that since the operator controls the passenger complement, the safety concerns associated with carriage of the public do not exist. Therefore, there is less of a need for the flight attendants to be able to monitor the passengers continuously.

How has the FAA addressed those concerns?

The FAA has issued exemptions that allow the flight attendant's direct view to be reduced, resulting from the compartmentalization of the cabin. The exemptions have required that the seated flight attendant face the passenger cabin.

How does the NPRM address the concerns?

This proposal allows for flight attendant seats that do not have direct view, provided the flight attendant seats face the cabin. This limitation at least affords the flight attendant the opportunity to view problems in the common areas of the cabin.

The current level of safety on private use airplanes should not be reduced since the need to monitor the passengers is not as critical because of the smaller numbers that are normally carried.

#### *Passenger Information Signs and Placards*

What is the underlying safety issue addressed by the current requirement?

Section 25.791(a) requires a "No Smoking" placard that is intended to reduce the risk of fire and to allow the cabin crew to be able to assess the cabin condition during the critical phases of flight, i.e., taxi, takeoff and landing. "No Smoking" placards must be visible to each seated occupant. Recently, smoking has also been addressed as a cabin air quality and passenger health issue. Therefore, smoking is banned on all domestic commercial flights.

What concerns have private use applicants expressed about compliance with the current requirement?

Applicants contend that since they own their airplanes they should be allowed to establish if smoking is allowed. If they decide not to allow it,

then a single sign prohibiting smoking should be sufficient.

How has the FAA addressed those concerns?

We have issued exemptions to allow the applicants the flexibility to establish their own smoking restrictions.

How does the NPRM address the concerns?

This proposal would replace the multiple sign requirement with a single sign requirement specifying the applicant's smoking restrictions. The sign should be visible to all occupants upon entry. For aircraft with more than one entry door, a sign would be required at each door. In addition, the preflight briefing would include mention of any smoking restrictions. This proposal does not override the lavatory placarding and ashtray requirements of §§ 25.791(d) and 25.853(g).

The current level of safety on private use airplanes would not be reduced because the limited number of passengers on these airplanes would be made aware of the smoking limitations.

#### *Distance Between Exits*

What is the underlying safety issue addressed by the current requirement?

Section 25.807(f)(4) requires that passenger emergency exits be separated by no more than 60 feet, edge to edge. This requirement is intended to provide the passengers with readily accessible exits. As stated in the preamble of Amendment 25-67, a simple evacuation demonstration does not address the potential concerns arising from excessive distance between exits, including disruption of interior features, debris in the aisle, or failure of another exit (54 FR 26688; June 23, 1989). These concerns are magnified by a greater distance between exits and are not necessarily related solely to high density seating arrangements. That is, the further the exits are apart, the higher the likelihood that an individual will not be able to get from one exit area to another in an accident. In an evacuation demonstration, the time it takes an individual to get to an exit is mainly related to the number of passengers between that person and the area the passenger is trying to reach. When the cabin is empty, these times are short. This may not be the case in an actual accident where the scenario is much less predictable. Therefore, the fact that a seating arrangement is of low density is not, in and of itself, sufficient justification for changing the requirement. However, seating density

is relevant in determining the type and number of exits required.

How does the current requirement address it?

Section 25.807(f)(4) establishes quantitative limits on the distance between passenger exits.

What concerns have private use applicants expressed about compliance with the current requirement?

Owners/operators want the ability to configure the airplane to best use the interior space. This often necessitates deactivating various exits.

How has the FAA addressed those concerns?

The FAA has issued exemptions, with design limitations, to allow the applicants the needed flexibility in the design of their interiors.

How does the NPRM address the concerns?

The proposal would allow a distance greater than 60 feet between exits in a single instance on each side of the airplane fuselage (e.g., two pair of exits could not be deactivated on an airplane with 5 pairs of exits). There would, however, be stricter allowances about passenger seating locations and capacities in the airplane. Using seating density and the number of passengers as a starting point, the FAA has developed a proposal that continues to provide an acceptable level of safety for private use airplanes while allowing more than 60 feet between exits in some cases. An effect of the current rule is that no seat that is located between two exits can be more than 30 feet from an exit. This proposal would retain this effect by requiring that no seat be located further than 30 feet from the nearest exit.

A distance of more than 60 feet between adjacent passenger emergency exits on the same side of the same deck of the fuselage, as measured parallel to the airplane longitudinal axis between the nearest edges, would be allowed only one time on each side of the fuselage.

To further mitigate any safety concerns associated with allowing an increased distance between exits, the proposal also contains several limitations on passenger capacity that would reduce potential crowding in the affected areas. The proposal would reduce the number of passenger seats allowed between exit types to one-half the amount normally allowed in air carrier service.

The proposal would also reduce the number of passenger seats to 40 percent of the amount normally allowed by the

exit rating when a “dead end” zone is created. A dead end zone is an area that does not have a pair of exits at each end of the zone. Current guidance would allow 75 percent of the rated capacity of the single bounding pair of exits.

The proposal would also reduce the airplane’s total seating capacity to one-third of the theoretical maximum allowed by § 25.807. For example, on an airplane with four pairs of Type C exits, the type-certificated passenger seating capacity will normally be 220. Assuming the number 3 exits are deactivated, leaving three active pairs of Type C exits, the theoretical maximum currently allowed by § 25.807 would be 165. This proposal, however, would limit the maximum capacity to 55. The proposal does not use the term “approved maximum seating capacity (or configuration)” because the resultant exit configuration is not likely to have been formally approved to the theoretically allowed maximum.

#### *Emergency Signage and Lighting*

What is the underlying safety issue addressed by the current requirement?

The intent of §§ 25.811(d) and (e) and 25.812(e) is to ensure that each passenger can find the exits during an emergency evacuation.

How does the current requirement address it?

1. *Emergency Exit Signs.* Section 25.811(d) requires three types of emergency exit signs: *locator signs* (§ 25.811(d)(1)), which are in the aisle at the approximate longitudinal station at the exit to direct a passenger to the exit; *marking signs* (§ 25.811(d)(2)), which are next to the exit to identify it when a passenger has reached that point; and *indicator signs* (§ 25.811(d)(3)), which are located on a bulkhead or divider to indicate exits are beyond that bulkhead.

2. *Floor Closeness Escape Path Markings.* Section 25.812(e)(1) requires that each passenger, after leaving his or her seat, be able to identify the emergency escape path and follow it to the first exit.

3. *Transverse Separation of the Fuselage.* Section 25.812(l) requires that no more than 25 percent of the required emergency lighting becomes inoperative after a crash landing resulting in any single transverse vertical separation of the fuselage.

What concerns have private use applicants expressed about compliance with the current requirement?

Owners/operators contend that the private use interior configurations do not easily lend themselves to strict

compliance with these regulations. They want the flexibility to adapt these systems to fit inside these custom interiors without unduly compromising the desired cabin layout or look.

How has the FAA addressed those concerns?

1. *Emergency Exit Signs.* The FAA has certified smaller signs combining both the marking and locator signs by using equivalent safety findings.

2. *Floor Proximity Escape Path Markings.* The FAA has granted exemptions.

3. *Transverse Separation of the Fuselage.* The FAA has granted exemptions.

How does the NPRM address the concerns?

1. *Emergency Exit Signs.* This proposal would allow the use of smaller signs, combining both the marking and locator signs into one sign, on airplanes with configurations that have less than 20 passengers (the part 25 discriminant is 10 or fewer passengers). The sign would have to satisfy the illumination requirements for the marking sign, which are more stringent than those of the locator sign. The emergency exit signs required by §§ 25.811(d)(1), (2), and (3), must have red letters at least 1-inch high on a white background at least 2 inches high. These signs may be internally electrically illuminated, or self-illuminated by other than electrical means, with an initial brightness of at least 160 microlamberts. The color may be reversed if a sign is self-illuminated by other than electrical means.

Adequacy of the single sign and its location for both the marking and locator signs would be demonstrated during the cabin compliance inspection of the interior arrangement or in a separate sign visibility demonstration. Such arrangements have been found acceptable under equivalent safety findings in the past.

2. *Floor Proximity Escape Path Markings.* This proposal recognizes isolated compartments; that is, walled compartments with doorways where the main aisle is outside the compartment. It requires a marking system that would allow a person to exit the compartment using only marking/features less than 4 feet above the floor, but does not require a specific marking of a “path.” Once in the main aisle, passengers must be able to locate each exit in accordance with §§ 25.812(e)(1) and (e)(2). For exits that are inside an isolated compartment, the current rules would apply, i.e., a path must be marked.

The intent of this proposal is to recognize many passengers’ familiarity

with the airplane and the typical open floor plans of portions of the interior configuration, which make incorrect identification of the exit path much less likely. This proposal should have no appreciable effect on safety for this type of airplane operation.

3. *Transverse Separation of the Fuselage.* This proposal changes the percentage of lights that must remain operative after a transverse separation of the fuselage, based on type certificated maximum passenger capacity rather than the prescriptive 25 percent required by § 25.812(l).

For small cabins with low passenger capacities, the current 25 percent limit on lights rendered inoperative by a transverse separation makes compliance difficult. It does not add appreciably to safety, as the distance to any one exit is shorter than the distance for a typical large transport category airplane. For these airplanes, that require fewer emergency lights to begin with, a higher percentage of inoperative lights do not reduce the level of safety.

#### *Interior Doors*

What is the underlying safety issue addressed by the current requirement?

Section 25.813(e) states that no door may be installed in any partition between passenger compartments. Installing a door in any partition between passenger compartments could impede evacuating passengers during an emergency.

What concerns have private use applicants expressed about compliance with the current requirement?

Interior doors in private use airplanes are one of the most desirable features because of the enhanced privacy and noise isolation that doors provide over curtains. The flexibility to partition the airplane is regarded as paramount to an acceptable luxury interior.

How has the FAA addressed those concerns?

The FAA has issued several exemptions that allow interior doors between passenger compartments, under specified conditions.

How does the NPRM address the concerns?

This proposal would allow interior doors with the limitations imposed in exemptions. To be acceptable, a number of features must be incorporated in the design or operational procedures. The door must be kept in the open position by dual means during taxi, takeoff, and landing; and, if installed across a main aisle, open in a transverse direction, such as a pocket door. There must be

indication to the flightcrew on the flightdeck, whether the door is open for takeoff and landing. Finally, the door must be frangible, so that occupants on either side of the doors cannot become trapped.

The basic intent of this proposed requirement is to have a frangible door design. The requirement is to anticipate and address situations that may result in the door being completely jammed in the fully deployed position. Examples of jamming around the perimeter would include motor failure, track breakage, surround structure deformation, or structural damage (pocket door cavity, or ceiling or nearby monuments). A straightforward approach would be to show that persons of the requisite stature can physically break through the jammed door. Another approach would be to incorporate a fuse hinge device that allows the door to be swung forward or aft when the fuse is broken. Past compliance has been shown by demonstrating a female in the 5th percentile can break the fuse in the door and the resulting opening can allow egress of a male in the 95th percentile and passage of emergency equipment. Obstacles within the door swing path should be limited in their location and deployment/movement such that egress is allowed.

If a partial blockage is allowed, then the blockage should be such that the door can be moved far enough to break the mechanical fuse device prior to contacting the obstruction. In no case should the occupant egressing through the sliding pocket door have to rely on another occupant for assistance in clearing an exit path. It would be acceptable, however, for the trapped occupant to break the fuse by pushing in the forward direction, encountering resistance and then pulling the door back to provide the necessary clearance. In this situation, the door should be equipped with an appropriate handle or doorknob that will allow the door to be pulled back. Placards should be provided on both sides of the door to provide instruction on the alternative method for opening the door in the event that normal door stowage is not possible.

As stated in the exemptions, installation of a door, even with limitations, cannot provide an equivalent level of safety to not having a door. Allowing installation of interior doors in egress paths reduces the level of safety currently required in part 25 and the operating rules. However, considering the differences between private and air carrier operations, this is an area where the FAA has determined

that different levels of safety are acceptable.

#### *Main Aisle Width*

What is the underlying safety issue addressed by the current requirement?

The main purpose for a minimum aisle width, as specified in § 25.815, is to allow for rapid egress from the airplane in an emergency.

Aisles also provide the means for crewmembers to access all parts of the cabin during flight to address emergency conditions and allow passengers to return to their seats during turbulence or following decompression. Not providing adequate aisles during flight may significantly impact or even prevent the accomplishment of those latter objectives.

Section 25.815 provides the minimum aisle widths for air carrier airplanes. As noted in the Table located within § 25.815, requirements for aisle width are based on passenger capacity. The rule acknowledges that with smaller numbers of passengers, fewer passengers need to traverse an aisle to reach an exit. Since the exit requirements for small passenger capacity airplanes allow fewer and smaller exits, there is limited benefit in having an aisle evacuation capability that far exceeds the evacuation capability of the exits that the aisle feeds.

For air carrier airplanes, it has been an FAA practice to require that aisle widths be determined with seats in the most critical position allowed by the design. This practice is based on the assumption that the seats could be in this position during an emergency. Therefore, a seat that reclines would have to be evaluated in the reclined position when the determination of available aisle width was made if that configuration was more critical than an upright seat back.

The practice has been less consistent for private use airplanes. Many design approvals allow a seat positioned in its adverse (critical) configuration to encroach into the required aisle. In these cases, the seat position for takeoff and landing has typically been controlled by instructional placards. The FAA is aware of current configurations in private use operation where the aisle width can be reduced to zero if, for example, seats on opposite sides of an aisle are each translated inboard. This configuration would no longer be permitted.

What concerns have private use applicants expressed about compliance with the current requirement?

Owners/operators want the ability to configure the airplane to best use the interior space and incorporate seats with design features, which do not facilitate incorporating standard aisle widths.

How has the FAA addressed those concerns?

The FAA has issued several exemptions that allow seats to reduce the required minimal aisle width in-flight. Past FAA practice has allowed airplanes in private use to be operated with seats that can translate and/or swivel into positions that reduce the aisles below the regulatory minimum in flight.

How does the NPRM address the concerns?

This proposal would eliminate the practice of allowing seats to be maneuvered into positions in flight that reduce the aisle to widths as little as zero. It would provide a minimum aisle for in-flight emergencies. However, this proposal would permit seats to be moved or adjusted during flight to positions that reduce the aisle width below the minimum required for takeoff and landing, as long as passengers are instructed in the procedure for properly positioning the seat for taxi, takeoff and landing. Finally, this proposal allows different standards for aisle width for takeoff and landing versus in-flight phases. For takeoff and landing, the aisle width requirements are the same as currently required in part 25. To maintain an acceptable aisle in flight, the FAA is proposing that no aisle be reduced to less than 9 inches between seats, with seats in any possible fixed position (as allowed by the design). A seat that can rotate, but does not lock in any position other than forward or aft, would only be considered in the forward or aft orientations. Compliance with this requirement would be mandatory.

Requiring a minimum 9-inch aisle width during flight will ensure there is an aisle for crewmembers or passengers to traverse the length of the passenger cabin to address emergencies, e.g., to fight a fire in the cabin, or to return to seats during turbulence. Although this proposal would cause private use operators to lose some of the cabin flexibility they currently enjoy, it would allow for the 9-inch minimum aisle to be displaced from the aisle provided during taxi, takeoff, and landing. For example, if moving a seat inboard

reduced the aisle width, but in turn created a secondary passage meeting the 9-inch criterion, and this passage allowed continuous travel fore and aft in the cabin (considering vertical clearance), this design would satisfy the proposal. This proposal should have an improved level of safety by ensuring aisles remain accessible in flight.

#### *Interior Materials Heat/Release & Smoke Density*

What is the underlying safety issue addressed by the current requirement?

The primary benefit of the current flammability standards in § 25.853 for passenger cabins is the increase in available evacuation time from a post crash external fuel fire accident scenario.

Section 25.853(d) requires that large area materials, as described in §§ 25.853(d)(1), (2), (3), and (4), meet the rate of heat release and smoke emission requirement of Parts IV and V of Appendix F to part 25, respectively.

What concerns have private use applicants expressed about compliance with the current requirement?

The owners/operators contend that the current flammability requirements were intended for commercial air carrier operation, where the goal is to provide the added time needed to evacuate a large number of passengers from the airplane. Also, they contend that their unique type of operation does not warrant the added certification requirements and financial burden associated with the increased flammability requirements. Finally, they do not want to be restricted in the choice of materials for their luxury interiors.

How has the FAA addressed those concerns?

The FAA has granted exemptions on private use airplanes to address relaxing flammability requirements of heat release and smoke emissions for interior materials. Exemptions have required an evacuation demonstration compliance time of 45 seconds.

How does the NPRM address the concerns?

An objective of this proposal is to provide a means to allow operators to achieve the configuration flexibility that they need. The FAA is proposing a 45-second evacuation time when compliance with the heat release and smoke emissions requirements is not demonstrated. Compliance with other flammability requirements, i.e., Part 1 of Appendix F, will still be required.

The FAA acknowledges that the level of safety is not equivalent to current part 25, but is an improvement over the large number of airplanes with type certification before Amendment 25–61 (52 FR 5422; February 22, 1987). It should also be noted that even if an airplane's type certification basis includes Amendment 25–61, the heat release and smoke emissions requirements apply only if the seating capacity of the airplane is more than 19 passengers. Therefore, many of the airplanes covered by this proposal, i.e., those airplanes with 19 or fewer passenger seats, would not be required to comply even if the type certificate was issued after Amendment 25–61 became effective.

#### *Fire Detection*

What is the underlying safety issue addressed by the current requirement?

Many private use airplanes are partitioned into rooms and, under other provisions of this proposal, could be closed off with doors. This type of design has the effect of creating several areas where the rapid detection of a fire cannot be assumed. The FAA has historically mandated installing fire detection systems in certain isolated areas, based on § 21.21(b)(2), which prohibits any feature found to be unsafe. However, because of the general nature of such a requirement, the application has not always been uniform, and all the areas that might warrant a fire detection system have not always been addressed.

Section 25.854(a) requires cabin fire detection equipment only in lavatories. Since most passenger cabins are essentially open areas with occupants throughout, it is expected that a fire occurring elsewhere in the cabin will be readily detected by the occupants. However, materials that pass the flammability test requirements of § 25.853 and part 1 of Appendix F, are self-extinguishing to prevent rapid growth of the fire until action can be taken.

What concerns have private use applicants expressed about compliance with the current requirement?

Owners/operators have expressed concern that installing too many interior fire detectors may create additional hazards, through an increase in false alarms and aborted takeoffs.

How has the FAA addressed those concerns?

The FAA has required additional fire detectors in these areas as part of the limitations listed in the exemptions granted for other private use airplanes.

How does the NPRM address the concerns?

This proposal would require installation of a fire detection system in any room not designated suitable for occupancy during taxi, takeoff, and landing, and that can be closed off from the rest of the cabin by a door. Such rooms would include large galley complexes, as well as bedrooms and conference rooms.

The detection equipment must meet the requirements of § 25.858, which establishes standards for fire detection systems for cargo or baggage compartments. The applicant would have to identify the likely source(s) of fire within a room, and show that the detection system was capable of detecting a fire within one minute. This proposal would preclude having to address every possible point in the room as a potential fire source (as is done for cargo compartments), which would remain an acceptable alternative, if the applicant did not want to go through the exercise of identifying the likely source of fires.

What is the effect of the proposal on the underlying safety issue, and, to the extent safety is reduced, why is that appropriate?

This proposal is intended to maintain the currently established level of safety for private use airplanes. It is also intended to help offset relaxing material flammability standards and allowing interior doors as proposed and discussed above.

#### *Equipment Installations—Cooktops*

What is the underlying safety issue addressed by the current requirement?

Cooktops are unusual because they present safety concerns associated with a hot surface. However, the more significant safety issue may be the containers and their contents, placed on the cooktop. Hot liquids represent an especially difficult safety issue since they can easily spill and spread over large areas. The regulations require that a design have no unsafe features.

The current regulations did not envision cooktops when they were written and do not adequately address the various safety concerns associated with the installation and operation of these devices. The existing regulation does not prohibit the installation and use of cooktops.



What concerns have private use applicants expressed regarding compliance with the current requirement?

Owners/operators want the capability to cook while on the airplane, using equipment other than ovens that are routinely installed on private use and air carrier airplanes.

How has the FAA addressed those concerns?

The FAA has developed a list of special conditions to address the known safety concerns associated with installation of cooktops and use which are listed in the appendix to the proposed rule.

How does the NPRM address the concerns?

The proposal requires certain design features that will lessen the potential hazards, including guards to keep containers in place, a spill tray, positive indication of a hot surface, means to shield the cooktop and a fire extinguishing system.

What is the effect of the proposal on the underlying safety issue, and, to the extent safety is reduced, why is that appropriate?

We believe the requirements establish an appropriate level of safety for the equipment.

#### *Equipment Installations—Fire Extinguishers*

What is the underlying safety issue addressed by the current requirement?

The intent of the regulation as defined by § 25.851(a) is to ensure that there are a sufficient number and type of fire extinguishers available to address the kinds of fires likely to occur.

Section 25.851 requires that the number of handheld fire extinguishers be proportionate to the number of passengers.

What concerns have private use applicants expressed about compliance with the current requirement?

This is a new requirement that has not been previously addressed.

How has the FAA addressed those concerns?

This is a new requirement that has not been previously addressed.

How does the NPRM address the concerns?

This proposal would require a fire extinguisher for every pair of exits certified on the original type certificate, regardless of whether the exits are

deactivated in the proposed configuration. For example, if an airplane was certified with four pairs of exits, but during the interior modification the exits at door two right side and door three left side, or alternatively, the exits at door two left and right side were deactivated, a minimum of four fire extinguishers would still be required and would have to be uniformly distributed throughout the cabin. This requirement would be in addition to the extinguishers required by the cooktop section of this proposal unless the owner/operators can show the cooktop was installed near the original exits. Other areas that would require fire extinguishers to be installed, besides those already specified, would be galley complexes, remote rooms, large lavatory complexes and remote cargo areas accessible from the main deck. Compliance with this requirement is mandatory.

This proposal is intended to maintain the currently established level of safety for large private use airplanes by considering the size of the airplane as a factor in determining the number of handheld fire extinguishers rather than being only proportionate to the number of passengers. Since the assumption that the size of the airplane is proportional to the number of passengers onboard is inaccurate for many airplanes in private use, the standard method for determining the number of fire extinguishers is not adequate.

#### **Operational Requirements**

##### *Type of Operation*

This proposal addresses only airplanes that are operated for private use. Airplanes that are operated on a "for hire" basis, or offered for common carriage, even if no fee or other compensation is collected, could not operate under this proposal. Part 91 currently allows an airplane owner to collect compensation from another party that is operating or using the airplane. This practice would be permitted under this proposal provided the occupants are not charged for passage and the airplane is operated for private use. Airplanes that are certificated under the provisions of this proposal may not be operated under parts 135 and 121. The FAA specifically requests comments on whether the private use restriction would create areas where ambiguity can result. The fundamental intent of this proposal is that the type of affected operation does not involve the fare-paying public, or the general public even if fares are not collected. This does not preclude the operator from receiving

pay to the extent consistent with part 125 and part 91, subpart F.

To ensure that the type of aircraft addressed in this proposal are not used to conduct any operations that involve the fare-paying public or the public even if fares are not collected, the FAA proposes to include an operating limitation in the Airplane Flight Manual required by § 25.1581. This limitation would prohibit any operations involving the carriage of people or property for compensation or hire in the Airplane Flight Manual required by § 25.1581. Consistent with this operating limitation, the FAA proposes to require installation of a placard that is located in obvious view of the pilot-in-command. The placard must state, "Operations involving the carriage of people or property for compensation or hire are prohibited."

##### *Number of Passengers*

A basic assumption of most of the proposals in this notice is that the passenger capacity of the airplanes involved will be small, both in relation to the available exits and in an absolute sense. However, there is no other explicit provision that would directly limit the passenger capacity of an airplane under this proposal if all the requirements could be met. For example, it would be possible for an airplane with an exit-limited passenger capacity of 550 to carry 200 passengers without complying with the heat release and smoke emissions requirements for interior materials, provided the evacuation capability required under this proposal were demonstrated. The FAA has tentatively concluded that the maximum passenger capacity should be limited to address issues associated with unforeseen circumstances and the potential for the airplane to be compartmentalized with passengers scattered throughout. The FAA is proposing a maximum capacity of 60 passengers to be eligible for approval under this proposal. While 60 passengers is still a large number, the FAA has determined that it is reasonable if the other criteria of this proposal have been met. The FAA has determined that the standards proposed here would provide the level of safety intended for passenger seating arrangements that do not exceed 60. Considering the potential scenarios that might occur in service that would not be addressed in an evacuation demonstration, and the other provisions of this proposal, which effectively alter the type design requirements, airplanes with more than 60 passenger seats would not be eligible for certification and operation under this proposal.

Additionally, for passenger capacities between 45 and 60, inclusive, the applicant would be required to submit an emergency evacuation analysis that demonstrates that the airplane could be evacuated in less than 90 seconds under the test criteria and procedures of § 25.803 and Appendix J to part 25.

#### *Flight Attendant*

The current requirements for general operation (§ 91.533) mandate the carriage of a flight attendant for airplanes with more than 19 passengers. Because of the additional complexity in monitoring interior configuration with isolated occupant compartments, the requirement for a flight attendant is proposed to be lowered to 10 passengers or greater for airplanes equipped with interior doors. The intent of this change is to provide both a level of oversight in the cabin as well as to relieve the flightcrew of duties that they would otherwise be required to carry out. Since many of the types of airplanes currently intended for private use are typically used in air carrier operations, the potential for an airplane with 10 to 19 passengers and equipped with interior doors would be large. This would mean that the flightcrew would have responsibilities that would be beyond what was envisioned when the passenger capacity criterion was established for part 91. By changing the standard for carriage of a flight attendant to 10 passengers for those airplanes equipped with interior doors, the basic intent of the current requirements is maintained. In addition, the operational procedures required/provided by this proposal can be more readily carried out by a dedicated cabin crewmember.

Airplanes having between 10 to 50 passengers, inclusive, would require one flight attendant who meets the requirements of § 91.533(b). Airplanes with 51 to 60 passengers would require two flight attendants who meet the requirements of § 91.533(b).

#### *Briefings*

The proposal would require briefings to describe special interior configuration to continue to provide an acceptable level of safety. For example, seats that need to be positioned in specific locations and/or orientations to provide for enough egress paths will require a briefing to teach passengers in this process.

#### **Paperwork Reduction Act**

The Paperwork Reduction Act of 1995 (44 U.S.C. 3507(d)) requires that the FAA consider the impact of paperwork and other information collection

burdens imposed on the public. We have determined there is no current new information collection requirements associated with this proposed rule.

#### **International Compatibility**

In keeping with U.S. obligations under the Convention on International Civil Aviation, it is FAA policy to comply with International Civil Aviation Organization (ICAO) Standards and Recommended Practices to the maximum extent practicable. The FAA has determined that there are no ICAO Standards and Recommended Practices that correspond to these proposed regulations.

#### **Regulatory Evaluation, Regulatory Flexibility Determination, International Trade Impact Assessment, and Unfunded Mandates Assessment**

This portion of the preamble summarizes the FAA's analysis of the economic impacts of this NPRM. It also includes summaries of the initial regulatory flexibility determination. We suggest readers seeking greater detail read the full regulatory evaluation, a copy of which we have placed in the docket for this rulemaking.

Changes to Federal regulations must undergo several economic analyses. First, Executive Order 12866 directs that each Federal agency shall propose or adopt a regulation only upon a reasoned determination that the benefits of the intended regulation justify its costs. Second, the Regulatory Flexibility Act of 1980 requires agencies to analyze the economic impact of regulatory changes on small entities. Third, the Trade Agreements Act (19 U.S.C. 2531–2533) prohibits agencies from setting standards that create unnecessary obstacles to the foreign commerce of the United States. In developing U.S. standards, this Trade Act requires agencies to consider international standards and, where appropriate, to be the basis of U.S. standards. Fourth, the Unfunded Mandates Reform Act of 1995 (Pub. L. 104–4) requires agencies to prepare a written assessment of the costs, benefits, and other effects of proposed or final rules that include a Federal mandate likely to result in the expenditure by State, local, or tribal governments, in the aggregate, or by the private sector, of \$100 million or more annually adjusted for inflation. The FAA currently uses an inflation-adjusted value of \$120.7 million in lieu of \$100 million. In conducting these analyses, FAA has determined this rule: (1) Has benefits that justify its costs, is not a “significant regulatory action” as defined in section 3(f) of Executive Order 12866, and is not “significant” as

defined in DOT's Regulatory Policies and Procedures; (2) would not have a significant economic impact on a substantial number of small entities; (3) would have a neutral international trade impact; and does not impose an unfunded mandate on state, local, or tribal governments, or on the private sector. These analyses, available in the docket, are summarized below.

#### *Total Benefits and Costs of This Rulemaking*

The benefits of this NPRM, for applicants who select it, are time and cost savings in the cabin certification process.

This NPRM provides a voluntary means for certificating the cabin of transport category private use airplanes. Applicants who select the alternative means may incur minor incremental costs for additional fire extinguishers, cooktop design criteria, and a potential cost for a flight attendant compared to the existing cabin certification method. Applicants would only select the proposed alternative if they perceive the resulting benefits to exceed the costs.

#### *Who Is Potentially Affected by This Rulemaking?*

If adopted, this rulemaking would affect:

- Purchasers of transport category private use airplanes.
- Manufacturers of transport category private use airplanes.
- Completion centers for transport category private use airplanes.
- The FAA.

#### *Alternatives We Considered*

We did not consider other alternatives because the proposal provides cost and time savings compared to the existing set of requirements.

#### *Benefits of This Rulemaking*

The benefits of this rulemaking, for applicants who select the proposal, are a reduction in the time and costs of the cabin certification process for transport category, private use airplanes. These time and cost savings to airplane purchasers could amount to about \$725,000 per airplane certificated under this proposal. In addition, it is expected that the completion centers and the FAA would obtain cost and time savings if the proposal were selected by the applicant. The safety level is equivalent to that of the current process.

#### *Costs of This Rulemaking*

No required compliance costs.

#### **Regulatory Flexibility Determination**

The Regulatory Flexibility Act of 1980 (Pub. L. 96–354) (RFA) establishes “as a

principle of regulatory issuance that agencies shall endeavor, consistent with the objective of the rule and of applicable statutes, to fit regulatory and informational requirements to the scale of the business, organizations, and governmental jurisdictions subject to regulation." To achieve that principle, agencies are required to solicit and consider flexible regulatory proposals and to explain the rationale for their actions to assure that such proposals are given serious consideration. The RFA covers a wide-range of small entities, including small businesses, not-for-profit organizations and small governmental jurisdictions.

Agencies must perform a review to determine whether a rule will have a significant economic impact on a substantial number of small entities. If the agency determines that it will, the agency must prepare a regulatory flexibility analysis as described in the RFA.

However, if an agency determines that a proposed or final rule is not expected to have a significant economic impact on a substantial number of small entities, section 605(b) of the 1980 RFA provides that the head of the agency may so certify and a regulatory flexibility analysis is not required. The certification must include a statement providing the factual basis for this determination, and the reasoning should be clear.

This proposal is voluntary; therefore it imposes no costs. Businesses, large and small may voluntarily choose to use this proposal because of the associated cost savings. Therefore, the FAA Administrator certifies that this proposal would have no adverse impact on small business entities.

#### **International Trade Impact Assessment**

The Trade Agreements Act of 1979 (Pub. L. 96-39) prohibits Federal agencies from establishing any standards or engaging in related activities that create unnecessary obstacles to the foreign commerce of the United States. Legitimate domestic objectives, such as safety, are not considered unnecessary obstacles. The FAA has assessed the potential effect of this proposed rule and determined that it would impose the same costs on domestic and international entities and thus have a neutral trade impact.

#### **Unfunded Mandates Assessment**

Title II of the Unfunded Mandates Reform Act of 1995 (Public Law 104-4) requires each Federal agency to prepare a written statement assessing the effects of any Federal mandate in a proposed or final agency rule that may result in the

expenditure of \$100 million or more (adjusted annually for inflation with the base year 1995) in any one year by State, local, and tribal governments, in the aggregate, or by the private sector; such a mandate is deemed to be a "significant regulatory action." The FAA currently uses an inflation-adjusted value of \$120.7 million in lieu of \$100 million.

This proposed rule does not contain such a mandate. The requirements of Title II do not apply.

#### **Executive Order 13132, Federalism**

The FAA has analyzed this proposed rule under the principles and criteria of Executive Order 13132, Federalism. We determined that this action would not have a substantial direct effect on the States, on the relationship between the national Government and the States, or on the distribution of power and responsibilities among the various levels of government, and; therefore, would not have federalism implications.

#### **Regulations Affecting Interstate Aviation in Alaska**

Section 1205 of the FAA Reauthorization Act of 1996 (110 Stat. 3213) requires the Administrator, when modifying regulations in title 14 of the CFR in a manner affecting interstate aviation in Alaska, to consider the extent to which Alaska is not served by transportation modes other than aviation, and to establish such regulatory distinctions, as he or she considers appropriate. Because this proposed rule would apply to the certification of future designs of transport category airplanes and their subsequent operation, it could, if adopted, affect interstate aviation in Alaska. The FAA, therefore, specifically requests comments on whether there is justification for applying the proposed rule differently in interstate operations in Alaska.

#### **Environmental Analysis**

FAA Order 1050.1E identifies FAA actions that are categorically excluded from preparation of an environmental assessment or environmental impact statement under the National Environmental Policy Act in the absence of extraordinary circumstances. The FAA has determined this proposed rulemaking action qualifies for the categorical exclusion identified in paragraph 312f and involves no extraordinary circumstances.

#### **Regulations That Significantly Affect Energy Supply, Distribution, or Use**

The FAA has analyzed this NPRM under Executive Order 13211, Actions Concerning Regulations That

Significantly Affect Energy Supply, Distribution, or Use (May 18, 2001). We have determined that it is not a "significant energy action" under the executive order because it is not a "significant regulatory action" under Executive Order 12866, and it is not likely to have a significant adverse effect on the supply, distribution, or use of energy.

#### **Plain English**

Executive Order 12866 (58 FR 51735, Oct. 4, 1993) requires each agency to write regulations that are simple and easy to understand. We invite your comments on how to make these proposed regulations easier to understand, including answers to questions such as the following:

- Are the requirements in the proposed regulations clearly stated?
- Do the proposed regulations contain unnecessary technical language or jargon that interferes with their clarity?
- Would the regulations be easier to understand if they were divided into more (but shorter) sections?
- Is the description in the preamble helpful in understanding the proposed regulations?

Please send your comments to the address specified in the **ADDRESSES** section.

#### **Additional Information**

##### *Comments Invited*

The FAA invites interested persons to participate in this rulemaking by submitting written comments, data, or views. We also invite comments relating to the economic, environmental, energy, or federalism impacts that might result from adopting the proposals in this document. The most helpful comments reference a specific portion of the proposal, explain the reason for any recommended change, and include supporting data. To ensure the docket does not contain duplicate comments, please send only one copy of written comments, or if you are filing comments electronically, please submit your comments only one time.

We will file in the docket all comments we receive, as well as a report summarizing each substantive public contact with FAA personnel concerning this proposed rulemaking. Before acting on this proposal, we will consider all comments we receive on or before the closing date for comments. We will consider comments filed after the comment period has closed if it is possible to do so without incurring expense or delay. We may change this proposal in light of the comments we receive.

### Availability of Rulemaking Documents

You can get an electronic copy of rulemaking documents using the Internet by—

1. Searching the Department of Transportation's electronic Docket Management System (DMS) web page (<http://dms.dot.gov/search>);
2. Visiting the FAA's Regulations and Policies web page at [http://www.faa.gov/regulations\\_policies/](http://www.faa.gov/regulations_policies/); or
3. Accessing the Government Printing Office's web page at <http://www.gpoaccess.gov/fr/index.html>.

You can also get a copy by sending a request to the Federal Aviation Administration, Office of Rulemaking, ARM-1, 800 Independence Avenue, SW., Washington, DC 20591, or by calling (202) 267-9680. Make sure to identify the docket number, notice number, or amendment number of this rulemaking.

You may access all documents the FAA considered in developing this proposed rule, including economic analyses and technical reports, from the internet through the Department of Transportation's DMS referenced in paragraph 1.

### List of Subjects in 14 CFR Part 25

Air transportation, Aircraft, Aviation safety, Safety.

### The Proposed Amendment

In consideration of the foregoing, the Federal Aviation Administration proposes to amend part 25 of Title 14, Code of Federal Regulations, as follows:

### PART 25—AIRWORTHINESS STANDARDS—TRANSPORT CATEGORY AIRPLANES

1. The authority citation for part 25 continues to read as follows:

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

2. In part 25, add SFAR No. \_\_\_\_ to read as follows:

\* \* \* \* \*

### Special Federal Aviation Regulation No. \_\_\_\_

1. *Applicability.* Contrary provisions of 14 CFR parts 21, 25, and 119 of this chapter notwithstanding, an applicant is entitled to an amended type certificate or supplemental type certificate in the transport category, if the applicant complies with all applicable provisions of this SFAR.

### Operations

#### 2. General.

(a) The passenger seating arrangement may not exceed 60.

(b) Airplanes outfitted with interior doors under paragraph 10 of this SFAR must be staffed with at least one flight attendant who meets the requirements of 14 CFR 91.533(b) of this chapter if the airplane has a capacity of 10–50 passengers, inclusive, and at least two flight attendants who meet the requirements of 14 CFR 91.533(b) of this chapter if the capacity exceeds 50 passengers.

(c) Prior to each flight, the operator must ensure that each passenger is briefed and instructed appropriately on functions to be performed by the passenger and the applicable features of the airplane.

(d) The airplane may not be offered for common carriage or operated for hire. The Airplane Flight Manual required by § 25.1581 must be revised to prohibit any operations involving the carriage of persons or property for compensation or hire.

(e) A placard stating that “Operations involving the carriage of persons or property for compensation or hire are prohibited,” must be located in conspicuous view of the pilot-in-command. The operators may receive remuneration to the extent consistent with parts 125 and 91, subpart F of this chapter.

(f) For seating arrangements of 45 to 60 passengers, analysis must be submitted that demonstrates that the airplane can be evacuated in less than 90 seconds under the conditions specified in § 25.803 and Appendix J to part 25.

### Equipment and Design

3. *General.* Unless otherwise noted, compliance is required with the applicable certification basis for the airplane.

#### 4. Occupant Protection.

(a) *Firm Handhold.* In lieu of the requirements of § 25.785(j), there must be a means provided to enable persons to steady themselves in moderately rough air while occupying aisles that are along the cabin sidewall or bordered by seats (seat backs providing a 25-pound minimum breakaway force are an acceptable means of compliance).

(b) *Injury criteria for multiple occupancy side-facing seats.* The following requirements are only applicable to airplanes that have § 25.562 in their certification basis.

(1) *Existing Criteria.* All injury protection criteria of § 25.562(c)(1) through (c)(6) apply to the occupants of side-facing seating. Head injury criteria (HIC) assessments are only required for head contact with the seat and/or adjacent structures.

(2) *Body-to-Body Contact.* Contact between the head, pelvis, or shoulder area of one seated anthropomorphic test dummy (ATD) on the adjacent seated ATD's is not acceptable during the test conducted in accordance with § 25.562(b)(1) and (b)(2). Incidental contact of the legs, feet, arms and hands that will not result in incapacitation of the occupants is acceptable.

(3) *Body-to-Wall/Furnishing Contact.* If the sofa is installed aft of a structure, such as an interior wall or furnishing that may be contacted by the pelvis, upper arm, chest, or head of an occupant seated next to the structure, then a conservative representation of the structure and its stiffness must be included in the tests. The contact surface of this structure must be covered with at least 2 inches of energy absorbing protective foam.

(4) *Thoracic Trauma.* Testing with a suitable side impact dummy (SID) (as defined by 49 CFR part 572, subpart F), or its equivalent, must be conducted, and the thoracic trauma index (TTI) injury criteria acquired with the SID must be less than 85, as defined in 49 CFR part 572, subpart F. Side impact dummy TTI data must be processed as defined in Federal Motor Vehicle Safety Standard (FMVSS) part 571.214, section S6.13.5.

(5) *Pelvis.* Pelvic lateral acceleration must not exceed 130 g. Pelvic acceleration data must be processed as defined in FMVSS part 571.214, section S6.13.5.

(6) *Shoulder Strap Loads.* Where upper torso straps (shoulder straps) are used for sofa occupants, tension loads in individual straps may not exceed 1,750 pounds. If dual straps are used for restraining the upper torso, the total strap tension loads may not exceed 2,000 pounds.

#### (c) General Guidelines.

(1) All side-facing seats require end closures.

(2) All seat positions need to be occupied for the longitudinal tests.

(3) For the longitudinal tests, conducted in accordance with the conditions specified in § 25.562(b)(2), a minimum number of tests will be required as follows:

(i) One test will be required with one SID ATD in the forward most position and Hybrid II ATD(s) in all other positions, with undeformed floor, 10 degrees yaw, and with all lateral supports (armrests/walls).

(ii) One test will be required with one SID ATD in the center seat and Hybrid II (or modified Hybrid III) ATD(s) in all other positions, with deformed floor, 10 degrees yaw, and with all lateral

supports (armrests/walls). This could be considered the structural test as well.

(4) For the vertical test, conducted in accordance with the conditions specified in § 25.562(b)(1), Hybrid II ATD's will be used in all seat positions.

5. *Direct View.* In lieu of the requirements of § 25.785(h)(2), to the extent practical without compromising proximity to a required floor level emergency exit, flight attendant seats must be located to face the cabin area for which the flight attendant is responsible.

6. *Passenger Information Signs.* Compliance with § 25.791 is required except that for § 25.791(a), when smoking is to be prohibited, notification to the passengers may be provided by a single placard so stating, to be conspicuously located inside the passenger compartment, easily visible to all persons entering the cabin in the immediate vicinity of each passenger entry door.

7. *Distance Between Exits.* For an airplane that is required to comply with § 25.807(f)(4), which has more than one passenger emergency exit on each side of the fuselage, no passenger emergency exit shall be more than 60 feet from any adjacent passenger emergency exit on the same side of the same deck of the fuselage, as measured parallel to the airplane's longitudinal axis between the nearest exit edges unless the following conditions are met:

(a) Each passenger seat must be located within 30 feet from the nearest exit on each side of the fuselage, as measured parallel to the airplane's longitudinal axis, between the nearest exit edge and the front of the seat bottom cushion.

(b) The number of passenger seats located between two adjacent pairs of emergency exits (commonly referred to as a passenger zone) or between a pair of exits and a bulkhead or a compartment door (commonly referred to as a "dead-end zone"), may not exceed the following:

(1) For zones between two pairs of exits, 50 percent of the combined rated capacity of the two pairs of emergency exits.

(2) For zones between one pair of exits and a bulkhead, 40 percent of the rated capacity of the pair of emergency exits.

(c) The total number of passenger seats in the airplane may not exceed 33 percent of the maximum seating capacity for the airplane model using the exit ratings listed in § 25.807(g) for the original certified exits or the maximum allowable after modification when exits are deactivated, whichever is less.

(d) A distance of more than 60 feet between adjacent passenger emergency exits on the same side of the same deck of the fuselage, as measured parallel to the airplane's longitudinal axis between the nearest exit edges, is allowed only one time on each side of the fuselage.

8. *Emergency Exit Signs.* In lieu of the requirements of § 25.811(d)(1) and (2) a single sign at each exit may be installed provided:

(a) The sign can be read from the aisle while directly facing the exit, and

(b) The sign can be read from the aisle adjacent to the passenger seat furthest from the exit without an intervening exit.

9. *Emergency Lighting.*

(a) *Exit Signs.* In lieu of the requirements of § 25.812(b)(2), for airplanes that have a passenger seating configuration, excluding pilot seats, of 19 seats or less, the emergency exit signs required by § 25.811(d)(1), (2), and (3) must have red letters at least 1-inch high on a white background at least 2 inches high. These signs may be internally electrically illuminated, or self illuminated by other than electrical means, with an initial brightness of at least 160 microlamberts. The color may be reversed in the case of a sign that is self-illuminated by other than electrical means.

(b) *Floor Proximity Escape Path Marking.* In lieu of the requirements of § 25.812(e)(1), for cabin seating compartments that do not have the main cabin aisle entering and exiting the compartment, the following are applicable:

(1) After a passenger leaves any passenger seat in the compartment, he/she must be able to exit the compartment to the main cabin aisle using only markings and visual features not more than 4 feet above the cabin floor, and

(2) Proceed to the exits using the marking system necessary to accomplish the actions in § 25.812(e)(1) and (e)(2).

(c) *Transverse Separation of the Fuselage.* In the event of a transverse separation of the fuselage, compliance must be shown with § 25.812(l) except as follows:

(1) For each airplane type originally type-certificated with a maximum passenger seating capacity of 9 or less, not more than 50 percent of all electrically illuminated emergency lights required by § 25.812 may be rendered inoperative in addition to the lights that are directly damaged by the separation.

(2) For each airplane type originally type-certificated with a maximum passenger seating capacity of 10 to 19, not more than 33 percent of all

electrically illuminated emergency lights required by § 25.812 may be rendered inoperative in addition to the lights that are directly damaged by the separation.

10. *Interior doors.* In lieu of the requirements of § 25.813(e), interior doors may be installed between passenger compartments, provided the following requirements are met.

**Note:** Reference paragraph 2(a) of this SFAR for flight attendant requirements.

(a) Each door between passenger compartments must have a means to signal to the flightcrew, at the flightdeck, that the door is in the open position for taxi, takeoff and landing.

(b) Appropriate procedures/limitations must be established to ensure that any such door is in the open configuration for takeoff and landing.

(c) Each door between passenger compartments must have dual means to retain it in the open position, each of which is capable of reacting the inertia loads specified in § 25.561.

(d) Doors installed across a longitudinal aisle must translate laterally to open and close, e.g., pocket doors.

(e) Each door between passenger compartments must be frangible.

11. *Width of Aisle.* Compliance is required with § 25.815, except that aisle width may be reduced to no less than 9 inches between passenger seats during flight, provided that instructions are provided at each passenger seat for restoring the aisle width required by § 25.815. Procedures must be established to ensure that the required aisle widths are provided during taxi, takeoff, and landing. The aisle width is determined with seats in the most adverse, fixed position, as described in AC 25-17, Transport Airplane Cabin Interiors Crashworthiness Handbook, dated June 15, 1991.

12. *Materials for Compartment Interiors.* Compliance is required with § 25.853, except that compliance with Appendix F, parts IV and V need not be demonstrated, if it can be shown by test or a combination of test and analysis that the maximum time for evacuation of all occupants does not exceed 45 seconds under the conditions specified in Appendix J to part 25.

13. *Fire Detection.* There must be means that meet the requirements of § 25.858(a) through (d) to signal the flightcrew in the event of a fire in any isolated room not occupiable for taxi, takeoff and landing, which can be closed off from the rest of the cabin by a door, from any likely source. The indication must identify the compartment where the fire is located.

14. *Cooktops.* Each cooktop must be designed and installed to minimize any potential threat to the airplane, passengers, and crew. Compliance with this requirement must be found in accordance with the criteria outlined in Appendix 1 of this SFAR.

15. *Hand-Held Fire Extinguishers.* In addition to the requirements of § 25.851, hand-held fire extinguishers must be installed at every pair of exits certified on the original type certificate in the passenger cabin, regardless of whether the exits are deactivated for the proposed configuration. Extinguishers must be evenly distributed throughout the cabin. These extinguishers are in addition to those required by paragraph 14 of this SFAR, unless it can be shown that the cooktop was installed in the immediate vicinity of the original exits.

#### Appendix 1 to SFAR No.—Cooktops

(a) Each cooktop must be designed and installed as follows:

(1) Means, such as conspicuous burner-on indicators, physical barriers, or handholds must be installed to minimize the potential for inadvertent personnel contact with hot surfaces of both the cooktop and cookware. Conditions of turbulence must be considered.

(2) Sufficient design means must be included to restrain cookware while in place on the cooktop, as well as representative contents, e.g., soup, sauces, etc., from the effects of flight loads and turbulence. Restraints must be provided to preclude hazardous movement of cookware and contents. These restraints must accommodate any cookware that is identified for use with the cooktop. Restraints must be designed to be easily utilized and effective in service. The cookware restraint system should also be designed so that it will not be easily disabled,

thus rendering it unusable. Placarding must be installed which prohibits the use of cookware that cannot be accommodated by the restraint system.

(3) Placarding must be installed which prohibits the use of cooktops (i.e., power on any burner) during taxi, takeoff, and landing.

(4) Means must be provided to address the possibility of a fire occurring on or in the immediate vicinity of the cooktop. Two acceptable means of complying with this requirement are as follows:

(a) Placarding must be installed that prohibits any burner from being powered when the cooktop is unattended. (**Note:** This would prohibit a single person from cooking on the cooktop and intermittently serving food to passengers while any burner is powered.) A fire detector must be installed in the vicinity of the cooktop which provides an audible warning in the passenger cabin, and a fire extinguisher of appropriate size and extinguishing agent must be installed in the immediate vicinity of the cooktop. Access to the extinguisher must not be blocked by a fire on or around the cooktop.

(b) An automatic, thermally activated fire suppression system must be installed to extinguish a fire at the cooktop and immediately adjacent surfaces. The agent used in the system must be an approved total flooding agent suitable for use in an occupied area. The fire suppression system must have a manual override. The automatic activation of the fire suppression system must also automatically shut off power to the cooktop.

(5) The surfaces of the galley surrounding the cooktop, which would be exposed to a fire on the cooktop surface or in cookware on the cooktop, must be constructed of materials that comply with the flammability requirements of Part III of Appendix F to part 25. This requirement is in addition to the flammability requirements typically required of the materials in these galley surfaces. During the selection of these materials, consideration must also be given to ensure

that the flammability characteristics of the materials will not be adversely affected by the use of cleaning agents and utensils used to remove cooking stains.

(6) The cooktop must be ventilated with a system independent of the airplane cabin and cargo ventilation system. Procedures and time intervals must be established to inspect and clean or replace the ventilation system to prevent a fire hazard from the accumulation of flammable oils and be included in the instructions for continued airworthiness. The ventilation system ducting must be protected by a flame arrestor. (**Note:** The applicant may find additional useful information in Society of Automotive Engineers, Aerospace Recommended Practice 85, Rev. E, entitled "Air Conditioning Systems for Subsonic Airplanes," dated August 1, 1991.)

(7) Means must be provided to contain spilled foods or fluids in a manner that will prevent the creation of a slipping hazard to occupants and will not lead to the loss of structural strength due to airplane corrosion.

(8) Cooktop installations must provide adequate space for the user to immediately escape a hazardous cooktop condition.

(9) A means to shut off power to the cooktop must be provided at the galley containing the cooktop and in the cockpit. If additional switches are introduced in the cockpit, revisions to smoke or fire emergency procedures of the Airplane Flight Manual will be required.

(10) If the cooktop is required to have a lid to enclose the cooktop there must be a means to automatically shut off power to the cooktop when the lid is closed.

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