

Federal Aviation Administration – [Regulations and Policies](#)
Aviation Rulemaking Advisory Committee

Occupant Safety Issue Area

Cabin Safety Harmonization Working Group

Task 3 – Compliance Reflectance Measurements Overwing Escape Route

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Task Assignment

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[Notices]
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DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

Aviation Rulemaking Advisory Committee; Transport Airplane and
Engine Issues--New and Revised Tasks

AGENCY: Federal Aviation Administration (**FAA**), DOT.

ACTION: Notice of new and revised task assignments for the Aviation
Rulemaking Advisory Committee (ARAC).

SUMMARY: Notice is given of new tasks assigned to and accepted by the
Aviation Rulemaking Advisory Committee (ARAC) and of revisions to a
number of existing tasks. This notice informs the public of the
activities of ARAC.

FOR FURTHER INFORMATION CONTACT: Dorenda Baker, Transport Airplane
Directorate, Aircraft Certification Service (ANM-110), 1601 Lind
Avenue, SW., Renton, WA 98055; phone (425) 227-2109; fax (425) 227-
1320.

SUPPLEMENTARY INFORMATION:

Background

The **FAA** has established an Aviation Rulemaking Advisory Committee
to provide advice and recommendations to the **FAA** Administrator, through
the Associate Administrator for Regulation and Certification, on the
full range of the **FAA**'s rulemaking activities with respect to aviation-
related issues. This includes obtaining advice and recommendations on
the **FAA**'s commitment to harmonize its Federal Aviation Regulations
(FAR) and practices with its trading partners in Europe and Canada.

One area ARAC deals with is transport airplane and engine issues.
These issues involve the airworthiness standards for transport category

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airplanes and engines in 14 CFR parts 25, 33, and 35 and parallel
provisions in 14 CFR parts 121 and 135. The corresponding Canadian
standards are contained in Parts V, VI, and VII of the Canadian
Aviation Regulations. The corresponding European standards are
contained in Joint Aviation Requirements (JAR) 25, JAR-E, JAR-P, JAR-
OPS-Part 1, and JAR-26.

As proposed by the U.S. and European aviation industry, and as

agreed between the Federal Aviation Administration (**FAA**) and the European Joint Aviation Authorities (JAA), an accelerated process to reach harmonization has been adopted. This process is based on two procedures:

(1) Accepting the more stringent of the regulations in Title 14 of the Code of Federal Regulations (FAR), Part 25, and the Joint Airworthiness Requirements (JAR); and

(2) Assigning approximately 41 already-tasked significant regulatory differences (SRD), and certain additional part 25 regulatory differences, to one of three categories:

<bullet> Category 1--Envelope

<bullet> Category 2--Completed or near complete

<bullet> Category 3--Harmonize

The Revised Tasks

ARAC will review the rules identified in the ``FAR/JAR 25 Differences List,' ' dated June 30, 1999, and identify changes to the regulations necessary to harmonize part 25 and JAR 25. ARAC will submit a technical report on each rule. Each report will include the cost information that has been requested by the **FAA**. The tasks currently underway in ARAC to harmonize the listed rules are superseded by this tasking.

New Tasks

The **FAA** has submitted a number of new tasks for the Aviation Rulemaking Advisory Committee (ARAC), Transport Airplane and Engine Issues. As agreed by ARAC, these tasks will be accomplished by existing harmonization working groups. The tasks are regulatory differences identified in the above-referenced differences list as Rule type = P-SRD.

New Working Group

In addition to the above new tasks, a newly established Cabin Safety Harmonization Working Group will review several FAR/JAR paragraphs as follows:

ARAC will review the following rules and identify changes to the regulations necessary to harmonize part 25 and JAR:

- (1) Section 25.787;
- (2) Section 25.791(a) to (d);
- (3) Section 25.810;
- (4) Section 25.811;
- (5) Section 25.819; and
- (6) Section 25.813(c).

ARAC will submit a technical report on each rule. Each report will include the cost information that has been requested by the **FAA**.

The Cabin Safety Harmonization Working Group would be expected to complete its work for the first five items (identified as Category 1 or 2) before completing item 6 (identified as Category 3).

Schedule

Within 120 days of tasking/retasking:

<bullet> For Category 1 tasks, ARAC submits the Working Groups' technical reports to the **FAA** to initiate drafting of proposed rulemaking documents.

<bullet> For Category 2 tasks, ARAC submits technical reports, including already developed draft rules and/or advisory materials, to the **FAA** to complete legal review, economic analysis, coordination, and issuance.

June 2000: For Category 3 tasks, ARAC submits technical reports including draft rules and/or advisory materials to the **FAA** to complete legal review, economic analysis, coordination, and issuance.

ARAC Acceptance of Tasks

ARAC has accepted the new tasks and has chosen to assign all but one of them to existing harmonization working groups. A new Cabin Safety Harmonization Working Group will be formed to complete the remaining tasks. The working groups serve as staff to ARAC to assist ARAC in the analysis of the assigned tasks. Working group recommendations must be reviewed and approved by ARAC. If ARAC accepts a working group's recommendations, it forwards them to the **FAA** and ARAC recommendations.

Working Group Activity

All working groups are expected to comply with the procedures adopted by ARAC. As part of the procedures, the working groups are expected to accomplish the following:

1. Document their decisions and discuss areas of disagreement, including options, in a report. A report can be used both for the enveloping and for the harmonization processes.
2. If requested by the **FAA**, provide support for disposition of the comments received in response to the NPRM or review the **FAA**'s prepared disposition of comments. If support is requested, the Working Group will review comments/disposition and prepare a report documenting their recommendations, agreement, or disagreement. This report will be submitted by ARAC back to the **FAA**.
3. Provide a status report at each meeting of ARAC held to consider Transport Airplane and Engine Issues.

Participation in the Working Groups

Membership on existing working groups will remain the same, with the formation of subtask groups, if appropriate. The Cabin Safety Harmonization Working Group will be composed of technical experts having an interest in the assigned task. A working group member need not be a representative of a member of the full committee.

An individual who has expertise in the subject matter and wishes to become a member of the Cabin Safety Harmonization Working Group should write to the person listed under the caption FOR FURTHER INFORMATION CONTACT expressing that desire, describing his or her interest in the tasks, and stating the expertise he or she would bring to the working group. All requests to participate must be received no later than December 30, 1999. The requests will be reviewed by the assistant chair, the assistant executive director, and the working group chair, and the individuals will be advised whether or not the request can be accommodated.

Individuals chosen for membership on the Cabin Safety Harmonization Working Group will be expected to represent their aviation community segment and participate actively in the working group (e.g., attend all meetings, provide written comments when requested to do so, etc.). They also will be expected to devote the resources necessary to ensure the ability of the working group to meet any assigned deadline(s). Members are expected to keep their management chain advised of working group activities and decisions to ensure that the agreed technical solutions do not conflict with their sponsoring organization's position when the subject being negotiated is presented to ARAC for a vote.

Once the working group has begun deliberations, members will not be added or substituted without the approval of the assistant chair, the assistant executive director, and the working group chair.

The Secretary of Transportation has determined that the formation and use of ARAC are necessary and in the public interest in connection with the performance of duties imposed on the **FAA** by law.

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Meetings of ARAC will be open to the public. Meetings of the working groups will not be open to the public, except to the extent that individuals with an interest and expertise are selected to participate. No public announcement of working group meetings will be made.

Issued in Washington, DC, on November 19, 1999.
Anthony F. Fazio,
Executive Director, Aviation Rulemaking Advisory Committee.
[FR Doc. 99-30774 Filed 11-24-99; 8:45 am]
BILLING CODE 4910-13-M

Recommendation Letter

Billy M. Glover
Director Airplane Environmental
Performance Strategy
Commercial Airplanes Group

The Boeing Company
P.O. Box 3707 MC 9U-KR
Seattle, WA 98124-2207

May 8, 2001
B-K700-BMG-01-008



Anthony F. Fazio
Executive Director
Aviation Rulemaking Advisory Committee
Federal Aviation Administration
800 Independence Avenue S.W.
Washington, D.C. 20591

Subject: Cabin Safety Harmonization Working Group Recommendations

Dear Mr. Fazio:

At the March 29, 2001 meeting of the Aviation Rulemaking Advisory Committee Occupant Safety Issues Group (OSIG), the Cabin Safety Harmonization Working Group (PSWG) presented recommendations concerning the harmonization of FAR Part 25.810. This was in response to a tasking made by the FAA in December 1999.

OSIG members agreed to forward this CSWG recommendation to the FAA. The CSWG report is enclosed.

Best Regards,

A handwritten signature in black ink, appearing to read "BMG", with a long horizontal flourish extending to the right.

Billy M. Glover
Assistant Chair of the Aviation Rulemaking Advisory Committee
Occupant Safety Issues Group

Enclosure (1)
1) ARAC CSHWG Report

cc:
John McGraw
OSIG members and associates

Am... - 00-552

Recommendation

ARAC CSHWG Report
FAR/JAR 25.810 (Category 1 Item)

1 - What is underlying safety issue addressed by the FAR/JAR? [Explain the underlying safety rationale for the requirement. Why does the requirement exist?]

- The safe and expedient evacuation of aircraft occupants to the ground in an emergency (for example fire in the cabin), by the application of design criteria for emergency egress assist means and escape routes.

2 - What are the current FAR and JAR standards?

Current FAR text: § 25.810 Emergency egress assist means and escape routes

(a) Each non over-wing Type A, Type B or Type C exit, and any other non over-wing landplane emergency exit more than 6 feet from the ground with the airplane on the ground and the landing gear extended, must have an approved means to assist the occupants in descending to the ground.

(1) The assisting means for each passenger emergency exit must be a self-supporting slide or equivalent; and, in the case of Type A or Type B exits, it must be capable of carrying simultaneously two parallel lines of evacuees. In addition, the assisting means must be designed to meet the following requirements-

(i) It must be automatically deployed and deployment must begin during the interval between the time the exit opening means is actuated from inside the airplane and the time the exit is fully opened. However, each passenger emergency exit which is also a passenger entrance door or a service door must be provided with means to prevent deployment of the assisting means when it is opened from either the inside or the outside under non-emergency conditions for normal use.

(ii) Except for assisting means installed at Type C exits, it must be automatically erected within 6 seconds after deployment is begun. Assisting means installed at Type C exits must be automatically erected within 10 seconds from the time the opening means of the exit is actuated.

(iii) It must be of such length after full deployment that the lower end is self-supporting on the ground and provides safe evacuation of occupants to the ground after collapse of one or more legs of the landing gear.

(iv) It must have the capability, in 25-knot winds directed from the most critical angle, to deploy and, with the assistance of only one person, to remain usable after full deployment to evacuate occupants safely to the ground.

(v) For each system installation (mockup or airplane installed), five consecutive deployment and inflation tests must be conducted (per exit) without failure, and at least three tests of each such five-test series must be conducted using a single representative sample of the device. The sample devices must be deployed and inflated by the system's primary means after being subjected to the inertia forces specified in § 25.561(b). If any part of the system fails or does not function properly during the required tests, the cause of the failure or malfunction must be corrected by positive means and after that, the full series of five consecutive deployment and inflation tests must be conducted without failure.

(2) The assisting means for flightcrew emergency exits may be a rope or any other means demonstrated to be suitable for the purpose. If the assisting means is a rope, or an approved device equivalent to a rope, it must be-

(i) Attached to the fuselage structure at or above the top of the emergency exit opening, or, for a device at a pilot's emergency exit window, at another approved location if the stowed device, or its attachment, would reduce the pilot's view in flight;

(ii) Able (with its attachment) to withstand a 400-pound static load.

(b) Assist means from the cabin to the wing are required for each Type A or Type B exit located above the wing and having a stepdown unless the exit without an assist-means can be shown to have a rate of passenger egress at least equal to that of the same type of non over-wing exit. If an assist means is required, it must be automatically deployed and automatically erected concurrent with the opening of the exit. In the case of assist means installed at Type C exits, it must be self-supporting within 10 seconds from the opening means of the exits is actuated. For all other exit types, it must be self-supporting 6 seconds after deployment is begun.

(c) An escape route must be established from each overwing emergency exit, and (except for flap surfaces suitable as slides) covered with a slip resistant surface. Except where a means for channeling the flow of evacuees is provided-

(1) The escape route from each Type A or Type B passenger emergency exit, or any common escape route from Type III passenger emergency exits, must be at least 42 inches wide; that from any other passenger emergency exit must be at least 24 inches wide; and

(2) The escape route surface must have a reflectance of at least 80 percent, and must be defined by markings with a surface-to-marking contrast ratio of at least 5:1.

(d) Means must be provided to assist evacuees to reach the ground for all Type C exits located over the wing and, if the place on the airplane structure at which the escape route required in paragraph (c) of this section terminates is more than 6 feet from the ground with the airplane on the ground and the landing gear extended, for all other exit types.

(1) If the escape route is over the flap, the height of the terminal edge must be measured with the flap in the takeoff or landing position, whichever is higher from the ground.

(2) The assisting means must be usable and self-supporting with one or more landing gear legs collapsed and under a 25-knot wind directed from the most critical angle.

(3) The assisting means provided for each escape route leading from a Type A or B emergency exit must be capable of carrying simultaneously two parallel lines of evacuees; and, the assisting means leading from any other exit type must be capable of carrying as many parallel lines of evacuees as there are required escape routes.

(4) The assisting means provided for each escape route leading from a Type C exit must be automatically erected within 10 seconds from the time the opening means of the exit is actuated, and that provided for the escape route leading from any other exit type must be automatically erected within 10 seconds after actuation of the erection system.

NOTE: The NPRM for amendment 25-88 (Notice No. 90-4) the following paragraph that was not contained in the final rule. After reviewing the disposition of comments to the NPRM that are included in the final rule we have determined that the paragraph was dropped inadvertently.

If the place on the airplane structure at which the escape route required in § 25.810(c) terminates is more than 6 feet from the ground and the landing gear extended, means must be provided to assist evacuees (who have used the overwing exits) to reach the ground. If the escape route is over the flap, the height of the terminal edge must be measured with the flap in the takeoff or landing position, whichever is higher from the ground. The assisting means must be of such length that the lower end is self-supporting on the ground after collapse of any one or more landing gear legs and must be automatically erected within 10 seconds after actuation of the inflation system. For Type C exits located over the wings, assisting means must be provided irrespective of the distance above the ground and the landing gear extended. Additionally, the assisting means must be automatically erected within 10 seconds from the time the opening means of the exit is actuated.

Current JAR text: JAR 25.810 Emergency egress assist means and escape routes

(a) Each non-over-wing landplane emergency exit more than 6 feet from the ground with the aeroplane on the ground and the landing gear extended and each non-over-wing Type A must have an approved means to assist the occupants in descending to the ground.

(1) The assisting means for each passenger emergency exit must be a self-supporting slide or equivalent; and, in the case of Type A exit, it must be capable of carrying simultaneously two parallel lines of evacuees. In addition, the assisting means must be designed to meet the following requirements.

(i) It must be automatically deployed and deployment must begin during the interval between the time the exit opening means is actuated from inside the aeroplane and the time the exit is fully opened. However, each passenger emergency exit which is also a passenger entrance door or a service door must be provided with means to prevent deployment of the assisting means when it is opened from either the inside or the outside under non-emergency conditions for normal use.

(ii) It must be automatically erected within 10 after deployment is begun.

(iii) It must be of such length after full deployment that the lower end is self-supporting on the ground and provides safe evacuation of occupants to the ground after collapse of one or more legs of the landing gear.

(iv) It must have the capability, in 25-knot winds directed from the most critical angle, to deploy and, with the assistance of only one person, to remain usable after full deployment to evacuate occupants safely to the ground.

(v) For each system installation (mockup or airplane installed), five consecutive deployment and inflation tests must be conducted (per exit) without failure, and at least three tests of each such five-test series must be conducted using a single representative sample of the device. The sample devices must be deployed and inflated by the system's primary means after being subjected to the inertia forces specified in JAR 25.561(b). If any part of the system fails or does not function properly during the required tests, the cause of the failure or malfunction must be corrected by positive means and after that, the full series of five consecutive deployment and inflation tests must be conducted without failure.

(2) The assisting means for flightcrew emergency exits may be a rope or any other means demonstrated to be suitable for the purpose. If the assisting means is a rope, or an approved device equivalent to a rope, it must be-

(i) Attached to the fuselage structure at or above the top of the emergency exit opening, or, for a device at a pilot's emergency exit window, at another approved location if the stowed device, or its attachment, would reduce the pilot's view in flight;

(ii) Able (with its attachment) to withstand a 400 lb (181.6 kg) static load.

(b) Assist means from the cabin to the wing are required for each Type A exit located above the wing and having a stepdown unless the exit without an assist-means can be shown to have a rate of passenger egress at least equal to that of the same type of non over-wing exit. If an assist means is required, it must be automatically deployed and automatically erected concurrent with the opening of the exit and self-supporting within 10 seconds.

(c) An escape route must be established from each overwing emergency exit, and (except for flap surfaces suitable as slides) covered with a slip resistant surface. Except where a means for channeling the flow of evacuees is provided-

(1) The escape route must be at least 42 inches (1.067 m) wide at Type A passenger emergency exit and must be at least 2 feet (609.6 mm) wide at all other passenger emergency exits, and

(2) The escape route surface must have a reflectance of at least 80 percent, and must be defined by markings with a surface-to-marking contrast ratio of at least 5:1. (See ACJ 25.810(c)(2).)

(d) If the place on the aeroplane structure at which the escape route required in sub-paragraph (c) of the paragraph terminates, is more than 6 feet (1.829 m) from the ground with the aeroplane on the ground and the landing gear extended, means to reach the ground must be provided to assist evacuees who have used the escape route. If the escape route is over a flap, the height of the terminal edge must be measured with the flap in the take-off or landing position, whichever is higher from the ground. The assisting means must be usable and self-supporting with one or more landing gear legs collapsed and under a 25-knot wind directed from the most critical angle. The assisting means provided for each escape route leading from a Type A emergency exit must be capable of carrying simultaneously two parallel lines of evacuees. For other than Type A exits, the assist means must be capable of carrying simultaneously as many parallel lines of evacuees as there are required escape routes.

3 - What are the differences in the standards and what do these differences result in?: [Explain the differences in the standards, and what these differences result in relative to (as applicable) design features/capability, safety margins, cost, stringency, etc.]

There are several differences between the subject FAR and JAR.

Firstly, the FAR includes two types of exits (B and C) which are not included in the JAR (exit types are defined in FAR/JAR 25.807).

The Type B exit has a smaller opening than the Type A exit. All of the other features contained in this regulation are the same for Type A and Type B exits. Therefore, wherever Type A exits are identified, the JAR needs to be revised to include the Type B exit. The Type C exit is an oversized Type I exit with a means to assist the occupants in descending to the ground. JAR needs to be revised to include Type C exits.

The JAA have committed to revising JAR 25.807 to adopt the additional types of exits (Types B and C) included in FAR 25.807. That activity must be completed prior to, or at the same time as, the present action.

Secondly, the FAR (at its latest revision) has reduced the time for the assist means to be automatically erected from 10 seconds down to 6 seconds, except for the Type C assist means which remains at 10 seconds from the time the opening means of the exit is actuated. This decrease in exit preparation time is the result of improvements in the state of art for the design of inflatable escape slides. The JAR has a single standard of 10 seconds for all assist means.

Thirdly, the FAR and JAR differ in their requirement regarding the width of common escape routes to dual Type III exits. The FAR allows 42 inches (the same as for Type A and B exits that are dual lane Exits), while the JAR does not have such a provision (though the JAA has accepted this approach in the past).

4 - What, if any, are the differences in the means of compliance? [Provide a brief explanation of any differences in the compliance criteria or methodology, including any differences in either criteria, methodology, or application that result in a difference in stringency between the standards.]

- None

5 – What is the proposed action? [Is the proposed action to harmonize on one of the two standards, a mixture of the two standards, propose a new standard, or to take some other action? Explain what action is being proposed (not the regulatory text, but the underlying rationale) and why that direction was chosen.]

- Revise the current FAR 25.810 Amendment 25-88 to include the intent of the NPRM 90-4 and the pre-amble material contained in Amendment 25-88. Amendment 25-88 added the Type B and C exits however several requirements that were included in the NPRM 90-4 were inadvertently dropped from the requirements or unclear when Amendment 25-88 was adopted. Also, adopting industry practice for the application assist means performance requirements for over-wing systems that is required by regulation for non over-wing assist means. The industry practices follow the intent of previous amendments to the regulations. The JAR would be revised to adopt this new FAR 25.810.

6 - What should the harmonized standard be? [Insert the proposed text of the harmonized standard here]

§ 25.810 Emergency egress assist means and escape routes.

(a) Each non over-wing landplane emergency exit more than 6 feet from the ground with the airplane on the ground and the landing gear extended, and each non over-wing Type A, Type B or Type C exit irrespective of the distance above the ground must have an approved means to assist the occupants in descending to the ground.

(1) The assisting means for each passenger emergency exit must be a self-supporting slide or equivalent; and, in the case of a Type A or Type B exit, it must be capable of carrying simultaneously two parallel lines of evacuees. In addition, the assisting means must be designed to meet the following requirements--

(i) It must be automatically deployed and deployment must begin during the interval between the time the exit opening means is actuated from inside the airplane and the time the exit is fully opened. However, each passenger emergency exit which is also a passenger entrance door or a service door must be provided with means to prevent deployment of the assisting means when it is opened from either the inside or the outside under non-emergency conditions for normal use.

(ii) Assisting means must be automatically erected within 10 seconds from the time the opening means of the exit is actuated.

(iii) It must be of such length after full deployment that the lower end is self-supporting on the ground and provides safe evacuation of occupants to the ground after collapse of one or more legs of the landing gear.

(iv) It must have the capability, in 25-knot winds directed from the most critical angle, to fully deploy and, with the assistance of only one person, to remain usable after full deployment to evacuate occupants safely to the ground.

(v) For each system installation (mockup or airplane installed), five consecutive full deployment tests must be conducted (per exit) without failure, and at least three tests of each such five-test series must be conducted using a single representative sample of the device. The sample devices must be deployed by the system's primary means after being subjected to the inertia forces specified in Sec. 25.561 (b). If any part of the system fails or does not function properly during the required tests, the cause of the failure or malfunction must be corrected by positive means and after that, the full series of five consecutive deployment tests must be conducted without failure.

(2) The assisting means for flightcrew emergency exits may be a rope or any other means demonstrated to be suitable for the purpose. If the assisting means is a rope, or an approved device equivalent to a rope, it must be--

(i) Attached to the fuselage structure at or above the top of the emergency exit opening, or, for a device at a pilot's emergency exit window, at another approved location if the stowed device, or its attachment, would reduce the pilot's view in flight;

(ii) Able (with its attachment) to withstand a 400-pound static load.

(b) Assist means from the cabin to the wing are required for each Type A or Type B exit located above the wing and having a stepdown (as defined in Sec 25.807) unless the exit without an assist-means can be shown to have a rate of passenger egress at least equal to that of the same type of non over-wing exit. If an assist means is required, it must be automatically erected and self-supporting within 10 seconds from the time the opening means of the exits is actuated.

(1) It must have the capability, in 25-knot winds directed from the most critical angle, to fully deploy and, with the assistance of only one person, to remain usable after full deployment to evacuate occupants safely to the wing.

(2) For each system installation (mockup or airplane installed), five consecutive full deployment tests must be conducted (per assist means installation) without failure, and at least three tests of each such five-test series must be conducted using a single representative sample of the device. The sample devices must be deployed by the system's primary means after being subjected to the inertia forces specified in Sec. 25.561 (b). If any part of the system fails or does not function properly during the required tests, the cause of the failure or malfunction must be corrected by positive means and after that, the full series of five consecutive deployment tests must be conducted without failure.

(c) An escape route must be established from each over-wing emergency exit, and (except for flap surfaces suitable as slides) covered with a slip resistant surface. Except where a means for channeling the flow of evacuees is provided--

(1) The escape route from each Type A or Type B passenger emergency exit, or any common escape route from two Type III passenger emergency exits, must be at least 42 inches wide; that from any other passenger emergency exit must be at least 24 inches wide; and

(2) The escape route surface must have a reflectance of at least 80 percent, and must be defined by markings with a surface-to-marking contrast ratio of at least 5:1.

(d) If the place on the airplane structure at which the escape route required in sec. 25.810(c) terminates is more than six feet from the ground with the airplane on the ground and the landing gear extended, means must be provided to assist evacuees (who have used the over-wing exits) to reach the ground. If the escape route is over a flap, the height of the terminal edge must be measured with the flap in the takeoff or landing position, whichever is higher from the ground. The assisting means provided for each escape route leading from a Type A or B emergency exit, or any common escape route from two Type III passenger emergency exits, must be capable of

carrying simultaneously two parallel lines of evacuees. The assisting means provided for each escape route leading from any other exit type must be capable of carrying as many parallel lines of evacuees as there are required escape routes.

(1) The assisting means must be automatically erected within 10 seconds after actuation of the inflation system. For Type C exits located over the wings, assisting means must be provided irrespective of the distance above the ground with the airplane on the ground and the landing gear extended. Additionally it must be automatically erected within 10 seconds from the time the opening means of the exit is actuated.

(2) The assisting means must be of such length after full deployment that the lower end is self-supporting on the ground and provides safe evacuation of occupants to the ground after collapse of one or more legs of the landing gear.

(3) The assisting means must have the capability, in 25-knot winds directed from the most critical angle, to deploy and, with the assistance of only one person, to remain usable after full deployment to evacuate occupants safely to the ground.

(4) For each system installation (mockup or airplane installed), five consecutive deployment tests must be conducted (per assist means installation) without failure, and at least three tests of each such five-test series must be conducted using a single representative sample of the device. The sample devices must be deployed by the system's primary means after being subjected to the inertia forces specified in Sec. 25.561 (b). If any part of the system fails or does not function properly during the required tests, the cause of the failure or malfunction must be corrected by positive means and after that, the full series of five consecutive deployment tests must be conducted without failure.

7 - How does this proposed standard address the underlying safety issue (identified under #1)?
[Explain how the proposed standard ensures that the underlying safety issue is taken care of.]

The addition of the design requirements for assist means provided for exits located over the wing that include repeatability testing and inertia loading testing of the assist means has increased the level of safety for both the FAR and JAR.

The current regulations require the exit be opened within 10 seconds from the opening means of the exit is actuated. The deployment of the assist means must begin within this time. The assist means must be erected within 6 seconds from deployment of the assist means. These requirements would allow up to 16 seconds from the opening means of the exit is actuated to the assist means being fully erected. The proposed standard would reduce this time to 10 seconds. This has increased the level of safety for both the FAR and JAR.

8 - Relative to the current FAR, does the proposed standard increase, decrease, or maintain the same level of safety? Explain. [Explain how each element of the proposed change to the standards affects the level of safety relative to the current FAR. It is possible that some portions of the proposal may reduce the level of safety even though the proposal as a whole may increase the level of safety.]

- Maintains the same level of safety that was envisioned by NPRM 90-4 and the preamble to Amendment 25-88. FAR 25.810(d) when adopted at Amendment 25-88 was missing several requirements or unclear.

The addition of the design requirements for assist means provided for exits located over the wing that include repeatability testing and inertia loading testing of the assist means has increased the level of safety for the FAR.

The current regulations require the exit be opened within 10 seconds from the opening means of the exit is actuated. The deployment of the assist means must begin within this time. The assist means must be erected within 6 seconds from deployment of the assist means. These requirements would allow up to 16 seconds from the opening means of the exit is actuated to the assist means being fully erected. The proposed standard would reduce this time to 10 seconds. This has increased the level of safety for the FAR.

9 - Relative to current industry practice, does the proposed standard increase, decrease, or maintain the same level of safety? Explain. [Since industry practice may be different than what is required by the FAR (e.g., general industry practice may be more restrictive), explain how each element of the proposed change to the standards affects the level of safety relative to current industry practice. Explain whether current industry practice is in compliance with the proposed standard.]

- For FAR-certificated airplanes: maintains the same level of safety.
- For JAR-only certificated airplanes: mandates a higher level of safety by reducing overall deployment time for most assist means, which will provide additional time for evacuation of the occupants.

10 - What other options have been considered and why were they not selected?: [Explain what other options were considered, and why they were not selected (e.g., cost/benefit, unacceptable decrease in the level of safety, lack of consensus, etc.)]

- None.

11 - Who would be affected by the proposed change? [Identify the parties that would be materially affected by the rule change – airplane manufacturers, airplane operators, etc.]

- Airplane manufacturers and modifiers, and escape slide manufacturers.

the side of the airplane the actuation of the inflation system would be considered the first movement of the compartment door.

e. guidance material concerning inertia loading of assist means, as first used in paragraph (a)(1)(v) of the proposed regulation needs to be provided. It is not required that each deployment in the repeatability have an assist means that has been subjected to one or more of the inertia forces specified in § 25.561(b). The intent was that all of the inertia forces must be applied to an assist means the is used for the repeatability testing. It is acceptable to combine inertia forces specified into two test that have resultant vector forces. For example a test that combines the forward, downward and inward inertia forces specified in § 25.561 into a resultant forces would be acceptable. The remaining inertia forces would be combine into a second resultant vector inertia force that could be tested.

14 - How does the proposed standard compare to the current ICAO standard? [Indicate whether the proposed standard complies with or does not comply with the applicable ICAO standards (if any)]

No specific ICAO Standard exists relative to this regulation.

15 - Does the proposed standard affect other HWG's? [Indicate whether the proposed standard should be reviewed by other harmonization working groups and why.]

- Not to this WG's knowledge.

16 - What is the cost impact of complying with the proposed standard? [Please provide information that will assist in estimating the change in cost (either positive or negative) of the proposed rule. For example, if new tests or designs are required, what is known with respect to the testing or engineering costs? If new equipment is required, what can be reported relative to purchase, installation, and maintenance costs? In contrast, if the proposed rule relieves industry of testing or other costs, please provide any known estimate of costs.]

The industry would estimate the cost burden being at a neutral level for the harmonization of this paragraph.

There are apparent administrative savings for the relevant Airworthiness Authorities. The industry has an initial administrative burden associated with adoption to the relevant certification procedures, e.g. the need to review certification documents and standard publications and adapt necessary changes.

17 - Does the HWG want to review the draft NPRM at "Phase 4" prior to publication in the Federal Register?

- Yes

18 - In light of the information provided in this report, does the HWG consider that the "Fast Track" process is appropriate for this rulemaking project, or is the project too complex or

controversial for the Fast Track Process. Explain. [A negative answer to this question will prompt the FAA to pull the project out of the Fast Track process and forward the issues to the FAA's Rulemaking Management Council for consideration as a "significant" project.]

- Yes. Technical agreement has been reached.

FAA Action – Not Available