

UNITED STATES OF AMERICA
DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION
RENTON, WASHINGTON 98057-3356

In the matter of the petition of

Airbus

for an exemption from § 25.809(a) of
Title 14, Code of Federal Regulations

Regulatory Docket No. FAA-2016-8692

GRANT OF EXEMPTION

By letter dated July 5, 2016, Mr. Christophe Julien, Chief Airworthiness Engineer Single Aisle, Airbus, 1 Rond-Point Maurice Bellonte, 31707 Blagnac Cedex, France, petitioned the Federal Aviation Administration (FAA) for an exemption from the requirements of § 25.809(a) of Title 14, Code of Federal Regulations (14 CFR). If granted, this exemption would permit relief from the requirement to provide a means of viewing the likely areas of evacuee ground contact prior to opening the over-wing emergency exit doors on Airbus Model A321-251NX, A321-252NX, A321-253NX, A321-271NX, and A321-272NX (A321 NEO ACF) airplanes.

The petitioner requests relief from the following regulation:

Section 25.809(a) requires, in pertinent part, that each emergency exit be provided with a means to permit viewing of the likely areas of evacuee ground contact prior to opening the exit.

The petitioner supports its request with the following information:

This section quotes the relevant information from the petitioner's request, with minor edits for clarity. The complete petition is available at the Department of Transportation's Federal Docket Management System, on the Internet at <http://regulations.gov>, in Docket No. FAA-2016-8692.

Section of 14 CFR from Which an Exemption is Sought

Under the provisions of 14 CFR 11.81, Airbus is seeking an exemption to allow partial relief from § 25.809(a) at Amendment 25-141 for the double over-wing emergency exits on the A321 NEO ACF.

Identification of Issue

In an emergency situation, it is generally accepted that an exit should not be opened if its opening would create a hazardous situation for the occupants of the airplane. With Amendment 25-116, the FAA introduced a requirement in § 25.809(a) for an outside viewing means at each emergency exit to permit viewing the likely area of evacuee ground contact during all lighting conditions with the landing gear extended as well as in all conditions of landing gear collapse.

The A321 NEO ACF airplane has two pairs of Type III over-wing exits that are located at the same relative position to the wing as on the A320 NEO airplane. These exits incorporate windows that provide an effective means to assess external conditions when deciding whether or not to open the exit. This includes viewing of the wing surface where the evacuees would make their initial contact on the wing in all lighting conditions with the landing gear extended as well as in all conditions of landing gear collapse. Once the exits have been opened, the enhanced light emitting diode (LED) lighting system installed on the off-wing escape slides allow the evacuees on the wing to view the evacuee ground contact in all lighting conditions.

Due to the relative position of the off-wing exits towards the likely area of ground contact, the over-wing exit windows do not allow direct viewing of the ground surface where the evacuees would normally be expected to make their initial ground contact. However, the over-wing exit windows provide an effective viewing of the wing surface where the evacuees will make their initial contact. Then, the lighting system of the off-wing escape slides ensures a viewing of the evacuee ground contact in all lighting conditions after door opening.

Partial relief from § 25.809(a) is necessary because development of a compliant design on the A321 NEO ACF would require extensive design changes and will not materially contribute to enhance the overall level of safety for the occupants.

Requested Regulatory Relief

The objective of this request is to permit the installation of the double pairs of over-wing exit doors on the A321 NEO ACF airplane without strictly complying with the outside viewing requirements of § 25.809(a) at Amendment 25-141. Partial relief is being sought from this requirement since the outside viewing means does not permit viewing of the likely area of evacuee ground contact prior to exit opening during all lighting conditions with the landing gear extended as well as in all conditions of landing gear collapse.

Supporting Argumentation

The geometry of the airplane is such that the view of the likely area of evacuee ground contact from the over-wing exit windows is not possible. This is due to the relative position of the off-wing exits towards the likely area of ground contact. However -

- The standard cabin windows installed on each over-wing door allow checking and assessing the situation on the wing when the doors are closed. This is directly compliant with “each emergency exit must have means to permit viewing of the conditions outside the exit when the exit is closed.”
- In compliance with the regulation, illumination of the wing surface (evacuation path) is provided to allow checking the situation on the wing under all lighting conditions prior to opening the door.
- Once the doors are opened, the evacuee will view the area of ground contact in lighting conditions by means of the enhanced LED lighting system provided on the off-wing escape slides.

The literal compliance to the rule would -

- Require extensive design changes to the airplane (exit relocation and installation of new external lights) to permit viewing of the likely areas of evacuee ground contact during all lighting conditions and with the landing gear extended and in condition of landing gear collapse.
- Be limited to the off-wing exit system. Other emergency exits (Type C emergency exits) on A321 NEO ACF remain unchanged compared to the original type certified product and will not be enhanced to meet the latest standard required by § 25.809(a), in line with the Changed Product Rule of 14 CFR 21.101 (CPR) analysis. The isolated application of § 25.809(a) to the over-wing emergency exits would then not materially contribute to enhance the overall level of safety for the occupants.

Conclusion: The level of safety of the A321 NEO ACF design is meeting the one intended by the rule. Prior to door opening, it ensures a viewing and an effective assessment of the outside conditions of the wing surface where the evacuees will make their initial contact. Then, after door opening, the enhanced illumination system of the off-wing slides will ensure the view of the area of the evacuee ground contact. The burden caused by a literal compliance is then not justified in light of the level of safety provided by the design.

Public Interest

During an airplane emergency evacuation, it is very likely that any severe external hazard that could create an immediate hazard to the occupants will be detected prior to deciding to open the over-wing exit doors. Therefore, there is no appreciable difference between the level of safety provided by the outside viewing means provided by the over-wing exit of the A321 NEO ACF airplane and the one intended by the regulation. Granting this petition is in the public interest because the outside viewing means incorporated in the design of the A321 NEO ACF airplane meets the level of safety intended by the rule promulgated by the FAA. Passenger and crew safety will not be degraded by a grant of this exemption petition.

Federal Register publication

The FAA has determined that good cause exists for waiving the requirement for *Federal Register* publication for public comment because the request is identical in all material respects to previously granted exemptions; the exemption, if granted, would not set a precedent; and any delay in acting on this petition would be detrimental to Airbus.

The FAA's Analysis

The FAA has reviewed the information provided by Airbus and has concluded that granting this exemption is in the public interest for the reasons stated by the petitioner and the reasons discussed below. The FAA has determined that there is no adverse impact on safety if an occupant cannot simultaneously see conditions immediately outside the over-wing emergency exit door and the ground contact point.

On many over-wing exits, the location where the evacuee makes first contact with the ground is a considerable distance from the point from which the evacuee exits the passenger cabin. The distance the evacuee moves either forward or aft on the wing's upper surface and then down to the ground, either by the escape slide or by jumping off of the wing, or sliding down the leading or trailing edge of the wing, makes it impossible to see the ground contact point from inside the airplane because of the distance or because of the wing itself blocking the view. Some commenters to the Notice of Proposed Rulemaking (Notice No. 96-9) related to 14 CFR 25.809(a) made this point, and the FAA's response was:

With respect to the potential for the exit to be somewhat remote from the point where the evacuees would contact the ground, the FAA agrees that this may be the case. The intent of the requirement is to enable a person to ascertain whether to open an exit, and whether it is safe to evacuate through the exit, based on an assessment of the outside conditions. To the extent that the means used for determination of the former does not also allow an assessment of the ground, the FAA agrees that an additional viewing means may be necessary, and that the additional means may be somewhat remote from the exit. We have therefore reworded the amendment to allow for the dual purpose of the viewing means, and to distinguish the required locations of the two.

Our intent in this rule was that it is not necessary for a person to be able to view the ground contact point while in position to open an over-wing exit. The rule itself refers to the ground contact view separately from the view of conditions outside the exit. However, the intent of the rule was not clearly expressed in the rule language. The FAA worked with the European Aviation Safety Agency (EASA) to improve the rule language based on our experience applying this rule. EASA incorporated the improved language in their Certification Specifications (CS) at amendment 25/12, dated July 13, 2012. CS 25.809(a)(3) states:

For non-over-wing passenger exits, a means must also be provided to permit viewing of the likely areas of evacuee ground contact when the exit is closed with the landing gears extended or in any condition of collapse. Furthermore, the likely areas of evacuee

ground contact must be viewable with the exit closed during all ambient lighting conditions when all landing gears are extended.

The FAA is considering rulemaking to harmonize this requirement with EASA.

The proposed configuration provides a level of safety consistent with the intent of the rule. The petition proposes that the over-wing exit windows allow for outside viewing to assess the outside conditions prior to opening the exit. The evacuee can then open the exit and step out onto the wing and move along the wing to assess the conditions where they would first make contact with the ground. At that point, if the conditions were not acceptable, evacuees would search for another location from which to exit off of the wing. To enforce literal compliance that is more stringent than our original intent for this rule would result in an unnecessary burden on the petitioner.

The FAA's decision

In consideration of the foregoing, I find that a grant of exemption is in the public interest. Therefore, pursuant to the authority contained in 49 U.S.C. 40113 and 44701 delegated to me by the Administrator, I grant Airbus an exemption from 14 CFR 25.809(a) that allows Airbus to partially comply with the outside-viewing requirements for the over-wing emergency exits on Model A321-251NX, A321-252NX, A321-253NX, A321-271NX, and A321-272NX (A321 NEO ACF) airplanes. Specifically, the exemption provides relief from the requirement that over-wing exits permit viewing of the likely areas of evacuee ground contact when the exits are closed. The exemption allows viewing the first point of contact with the ground after the over-wing exit has been opened and the evacuee is on the upper surface of the wing. Airbus must demonstrate compliance with all other requirements of § 25.809(a) at Amendment 25-116 for these airplanes.

Issued in Renton, Washington, on October 4, 2016.

/s/

Michael Kaszycki
Assistant Manager, Transport Airplane Directorate
Aircraft Certification Service