

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

In the matter of the petition of

The Boeing Company

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

Regulatory Docket No. FAA-2009-0628

DENIAL OF EXEMPTION

By letter BDCO-09-03252, dated June 30, 2009, Mr. C. M. Thompson, Lead Project Administrator, Development Projects, The Boeing Company, P.O. Box 3707, Seattle, Washington 98124-2207, petitioned for exemption from Title 14, Code of Federal Regulations (14 CFR), 25.809(a), as amended by Amendment 25-116. The proposed exemption, if granted, would permit relief from the requirement that emergency exits have a means to view outside conditions under all lighting situations for the Boeing Model 787 series airplane.

The petitioner requests relief from the following regulations:

Section 25.809(a), at Amendment 25-116, requires that each emergency exit be provided with a means to view conditions outside the airplane prior to opening an exit, under all lighting conditions.

The petitioner supports its request with the following information:

This section quotes the relevant information from the petitioner's request. 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-2009-0628.

Petition Overview

Under the provisions set forth in Title 14 Code of Federal Regulations (14 CFR) §11.81, The Boeing Company petitions the FAA to grant the Boeing 787 and its minor models exemption from § 25.809(a) at Amendment 25-116. In accordance with § 11.81 (c), the

extent of relief sought via this petition is limited to the part of the regulation requiring likely areas of evacuee ground contact must be viewable during "all lighting conditions" prior to opening the emergency exit. Compliance with the "all lighting conditions" requirement of the regulation would require an additional exterior emergency lighting system. The existing design 1) provides viewing of likely areas of evacuee ground contact in most lighting conditions prior to opening the emergency exit thereby allowing hazards to be identified prior to the exits being opened (note: fire, which is by far the most severe hazard, is visible in all lighting conditions) and 2) complies with all other pertinent requirements adopted in Amendment 25-116.

As required by §§ 11.81(d) and 11.81(e), it will be shown that granting of this petition for exemption will not adversely affect safety, and is in the "Public Interest." Per § 11.81(h), Boeing requests the privileges of this exemption be extended outside the United States. This extension of privileges is necessary for operations based within foreign countries having bilateral agreements with the United States accepting FAA 14 CFR part 25 as their airworthiness standards for transport category aircraft. The 787 is intended for the global market place with the launch customer being based in a country utilizing the United States airworthiness standards.

The FAA's stated intent for the new outside viewing requirements was not to address a known safety issue, but rather it was to bring the airworthiness standards up to date with the current state-of-the-art and existing design practice. The Model 787 has state of the art emergency exits, evacuation systems and exterior emergency lighting systems.

Introduction

With Amendment 25-116, the FAA introduced, in part, previously un-codified requirements for airframe manufacturers to provide outside viewing means at each emergency exit. While the outside viewing means provided for each emergency exit on the Model 787 are designed to meet the FAA's requirements as they were proposed in Notice of Proposed Rule Making (NPRM) 96-9, they do not fully comply with the requirements as adopted in Amendment 25-116. Boeing is petitioning for exemption from 14 CFR 25.809(a) at Amendment 25-116 for the Model 787 and its minor models. The relief sought is limited to the part of the regulation requiring the likely area of evacuee ground contact must be viewable "during all lighting conditions" prior to opening the emergency exit.

Like the majority of models in the jet transport fleet, the 787 exterior emergency lighting system that illuminates the likely areas of ground contact is integral to the escape slides, and thus, is not available prior to the emergency exit being opened.

The existing design of the 787 emergency exit outside viewing means provides viewing of likely areas of evacuee ground contact in most lighting conditions prior to opening the emergency exit thereby allowing hazards to be identified prior to opening the emergency exits. Fire, which is the most severe external hazard, is visible regardless of the external lighting conditions. The existing design complies with all other pertinent requirements

promulgated in Amendment 25-116 including the design of the emergency lighting system integral to the escape slides which is fully compliant with the applicable sections of § 25.812 "Emergency Lighting" as amended in 25-116.

Background on 14 CFR 25.809(a). Amendment 25-116

With the adoption of Amendment 25-116, the FAA amended the airworthiness standards for transport category airplanes by introducing several new cabin safety requirements. In general, the new requirements were not addressing known safety issues. The FAA's stated purpose when the new rules were proposed in NPRM 96-9 and adopted at Amendment 25-116 was to bring the airworthiness standards up to date with the current state-of-the-art and existing design practice.

NPRM 96-9 states " ...these proposals are not the result of any specific incident or recommendation, but are part of the Agency's continuing effort to upgrade the regulations to improve the overall level of safety in areas where the state-of-the art and good design practice have indicated that such upgrades are warranted. "

The NPRM also stated that "... this proposed rule is expected to impose minimal compliance costs on future part 25 type certificated airplanes. ...Similarly, the proposed rule would generate minimal real incremental benefits because it would codify current industry practices.

"The FAA's intention to codify the current state-of-the-art was reinforced in the preamble to Amendment 25-116 with the statement: "These amendments are deemed necessary and appropriate by the FAA considering the current state-of-the-art and existing design practice. Although nearly all existing installations already comply, these amendments will ensure that any others comply as well."

For reference, the text of § 25.809(a) prior to Amendment 25-116, as proposed in NPRM 96-9 and as issued in Amendment 25-116 is provided below.

§ 25.809(a) at amendment 25-114

Each emergency exit, including a flight crew emergency exit, must be a movable door or hatch in the external walls of the fuselage, allowing unobstructed opening to the outside.

§ 25.809(a) as published in NPRM 96-9

Each emergency exit, including each flightcrew emergency exit, must be a moveable door or hatch in the external walls of the fuselage, allowing unobstructed opening to the outside. In addition, each emergency exit must have means to permit viewing of the outside conditions when the exit is closed, so that likely areas of evacuee ground contact are visible. The likely areas of evacuee ground contact must be viewable with the landing gear extended as well as in all conditions of landing gear collapse. The viewing

means may be on the exit, or adjacent to it provided no obstructions exist between the exit and the viewing means.

§ 25.809(a) at amendment 25-116

Each emergency exit, including each flightcrew emergency exit, must be a movable door or hatch in the external walls of the fuselage, allowing an unobstructed opening to the outside. In addition, each emergency exit must have means to permit viewing of the conditions outside the exit when the exit is closed. The viewing means may be on or adjacent to the exit provided no obstructions exist between the exit and the viewing means. Means must also be provided to permit viewing of the likely areas of evacuee ground contact. The likely areas of evacuee ground contact must be viewable during all lighting conditions with the landing gear extended as well as in all conditions of landing gear collapse.

When reviewing NPRM 96-9, Boeing fully concurred with the FAA's stated intent to codify the standard industry design practice of providing an outside viewing means on or adjacent to the emergency exits. The purpose of the outside viewing means is to enable a person to ascertain whether to open an exit, and whether it would be safe to evacuate through the exit, based on an assessment of the outside conditions. For Boeing and other airframe manufacturers, it has been a longstanding design practice to provide an outside viewing means at the emergency exits. In service, these emergency exit windows have proven to provide an effective means for assessing outside conditions. There was no indication in the NPRM that the FAA intended to change the fundamental requirements for exterior emergency lighting systems such that the industry standard use of slide integral emergency lighting systems would no longer be sufficient by and of themselves to meet the nighttime emergency evacuation lighting regulations as issued in Amendment 25-116.

As the addition of the phrase "during all lighting conditions" was added after the public comment period, there was no opportunity for public comment. With the addition of that phrase, the FAA effectively introduced a new requirement for exterior emergency lighting, which is not consistent with the classification in the release of Amendment 25-116 that the addition of the phrase "during all lighting conditions" is a non-substantive change. This new requirement requires an additional exterior emergency lighting system for those airplanes that use slide integral emergency lighting systems which are designed to be compliant with §25.812 (Emergency Lighting) at Amendment 25-116. The exterior emergency lighting system of the Model 787, as with most other models in-service today, is integral with the escape slides and was designed to be compliant with the requirements submitted to the public via NPRM 96-9 and is compliant with the requirements of § 25.812 at Amendment 25-116.

Model 787 and Minor Model Design

The Model 787 certification basis is based upon that of the 787-8 which was initially established at Amendment 25-112. Boeing subsequently volunteered to comply with amendments through 25-116 and certain later amendments up to Amendment 25-125. However, due to Boeing's concerns with some of the new and unexpected requirements for exterior emergency lighting, an exception to Amendment 25-116 was retained for §25.809(a). As a result of moving the planned type certification date of the Model 787-8 to the first quarter of 2010, Boeing is now obligated by § 21.17(d) to include these regulations at Amendment 25-116 in the certification basis of the Model 787, since the effective date of this amendment now falls beyond the 5-year type certification application window for a transport category aircraft.

With regard to the current state-of-the-art and the existing design practice of airframe manufacturers like Boeing and Airbus, the external emergency lighting systems of the jet transport fleet can be divided into two major categories; those having their external emergency lights installed in the fuselage (thereby being able to provide some level of ground illumination before the doors are opened) and those having their external emergency lights integral to the escape slides (thereby not being able to provide ground illumination until the doors are opened and the escape slides are inflated). The Model 787 fits into the latter category and it is important to note that the majority of models in the current in-service jet transport fleet also fit into this latter category. Included with the 787 are the A300, A310, A318, A319, A320, A321, A330, A340, A380, ERJ-145, ERJ-170, ERJ-190, MD-80, MD-11, 717 and 747 models. Also, as with all other models in the passenger jet transport fleet, the Model 787 does not have a dedicated exterior emergency lighting system for the flight crew overhead hatch. Therefore, if hypothetically required to do so, there are no models in the passenger jet transport fleet that could be shown compliant with the rule as adopted due to the inclusion of the phrase "during all lighting conditions." Boeing certainly would have contested the insertion had it been included in the NPRM. Other manufacturers likely would have as well. Thus, the FAA did not accomplish its stated intent to codify existing design practice when it issued the final rule.

The Model 787 design is complete and it includes a means at each emergency exit of viewing of the external conditions prior to the exit being opened. The emergency exit door windows meet all of the outside viewing requirements as proposed in NPRM 96-9. The windows are sized and positioned on the doors to allow for a quick assessment of external conditions. This includes on the ground in the area where evacuees would normally be expected to make contact when the airplane is positioned on all three legs of landing gear or when it is positioned at the adverse attitudes that correspond to the loss of one or more legs of landing gear. For the flight deck emergency exit, the nearby large flight deck windows provide an effective means for assessing external conditions prior to the overhead emergency exit being opened.

An inflatable escape slide/raft is installed at each emergency exit in the passenger cabin. These escape slide/rafts are sized to provide for safe evacuation of airplane occupants

when the airplane is positioned normally on its landing gear and when positioned at the adverse attitudes that correspond to the loss of one or more landing gear. The escape slide/rafts are equipped with an integral emergency lighting system that illuminates the sliding lanes such that they are clearly visible in nighttime conditions to a person standing at the door and sill. In addition, the integral slide lighting system illuminates the area on the ground where evacuees are expected to make their initial contact, thus being fully compliant with the § 25.812 emergency lighting requirements. This type of exterior emergency lighting system is identical in regards to functionality as those installed on most other transport category airplane models (models listed above). It is consistent with good industry design practice and it is state-of-the-art in all regards.

Inertia reel descent devices are the evacuation assist means provided at the 787 flight deck emergency exit. These devices, which are similar to those commonly used on other models, provide for safe evacuation of the flight deck occupants when the airplane is positioned normally on its landing gear and when positioned at the adverse attitudes that correspond to the loss of one or more landing gear. Once an evacuee using an inertia reel descent device clears the fuselage, they are essentially lowered straight down in a controlled manner until they reach the ground.

With regard to the flight crew emergency exit, the FAA has acknowledged that the large flight deck windows will normally provide an adequate means for assessing outside conditions when determining whether to open the flight deck exit. In the preamble to Amendment 25-116, the FAA stated that "In most cases, it should be possible to view the outside conditions sufficiently well from a nearby passenger or flightdeck window to ascertain whether to open an overhead exit. This is considered acceptable." Since the outside viewing capability provided by the 787 flight deck windows is consistent with that of nearly every other widebody model in-service today, the 787 flight crew exit is considered compliant with the intent of § 25.809(a) as proposed in NPRM 96-9. However, as with all other models in the passenger jet transport fleet, the Model 787 does not have an exterior emergency lighting system at the flight crew exit.

The 787 door windows provide superior outside viewing capability. As stated in the preamble to Amendment 25-116, "The provisions of this rule reflect current industry practices. The primary potential benefit of the final rule is that it will require these current practices to be continued in the future." As compared to most other models in services today, the 787 door windows provide superior means at the emergency exits for assessing outside conditions. The 787 passenger door window size is nearly 500% larger than the vast majority of exit door windows in service today. The 787 door windows provide superior viewing capability compared to the vast majority of smaller door windows in the current jet transport fleet.

The 787 basic design was established prior to the issuance of Amendment 25- 116. It wasn't until after Boeing established the basic design of the door windows and the exterior emergency lighting system that the FAA issued Amendment 25-116. After the final rule was published Boeing raised its concerns with the insertion of the phrase "during all lighting conditions."

However, this issue was not resolved. It wasn't until the program schedule revision in January 2009 that Boeing determined the need to move the type certification date of the Model 787-8 into early 2010, thus requiring that all of Amendment 25-116 be included in the certification basis.

Full compliance with the adopted rule will be disruptive and costly with no appreciable benefit. In the preamble to Amendment 25-116, the FAA acknowledged the technical difficulties and resultant costs associated with modifying existing airplanes, and thus there was no requirement to retrofit in-service models. While the Model 787 has not yet entered service, airplanes have already entered final assembly and dozens will have been built before a fully compliant exterior emergency lighting system could be developed. Furthermore, since the new exterior lighting system will require penetrations in the fuselage that were not accounted for when the large mandrels that are used in the manufacturing of the monolithic composite fuselage sections were built, any new penetrations will have to be handled as post-build modifications to the fuselage sections. Therefore, the incorporation of a new exterior lighting system this late in the program would essentially be of a retrofit type, and would be very disruptive and costly with no appreciable benefit.

Statement of no Adverse Effect on Safety

Granting this petition will have no adverse effect on the level of safety. The FAA's stated intent was to upgrade the regulations to improve the overall level of safety in areas where the state-of-the-art and good design practice have indicated that such upgrades are warranted. As such, the FAA acknowledged that the new rule would generate minimal real incremental benefits because it would codify current industry practices. The outside viewing means and exterior emergency lighting system that have been developed for the 787 are consistent with good industry design practice and are state-of-the-art in all regards.

During a time-critical emergency evacuation, an external fire is the principal external hazard that can pose a more immediate threat to the occupants of the airplane if the exit is opened. An external fire is readily visible in both day and nighttime conditions and the large 787 passenger door windows and the flight deck windows provide for a wide, undistorted viewing area when assessing for fire and other possible external threats. Boeing has reviewed several airplane accident databases and found no evidence of pertinent service history that any in service injuries or fatalities could have been prevented had those airplanes been in full compliance with the "during all lighting conditions" provision of § 25.809(a) at Amendment 25-116. Therefore, there is no appreciable difference between the level of safety provided by the 787 door window design and that specified by the new regulation.

Statement of Public Interest

Grant of this exemption is in the public interest. There is no adverse effect on safety. The grant of exemption will allow the avoidance of the added weight, complexity, maintenance costs, and environmental impact associated with the extra lighting system. Conversely, if required to add this new system, an increase in weight and complexity to the 787 would occur, resulting in an increased burden for airline operators due to the maintenance, and spare parts provisioning that would be required, as well as an increase in both fuel burn and emissions. Preliminary estimates indicate an increase of ~ 50 pounds of airplane operational empty weight (OEW) associated with this extra lighting system. This translates into approximately 15,000 gallons of additional fuel usage per airplane over its operating life with an associated 323,000 pounds of CO2 emissions. For a fleet of 1000 airplanes this would amount to ~ 15,000,000 gallons of fuel and 323,000,000 pounds of CO2. Therefore, granting the exemption would contribute to keeping airfare costs under control thus helping our airline customers to remain competitive while making a positive contribution to the environment. It should be emphasized that the 787 exit windows in combination with its external emergency lighting system being integral with the escape slides is state-of-the-art and provides the level of safety that the FAA intended to promulgate with the new rule.

Conclusion

All Model 787 passenger doors have windows that are sized and positioned to allow for a quick assessment of external conditions. This includes the area where the evacuees would normally be expected to make contact on the ground when the airplane is positioned at a normal attitude or at the adverse attitudes that correspond to the loss of one or more legs of landing gear. The large size of the 787 door windows, compared to the vast majority of emergency exit windows in service today, allow the ground viewing without the need for a prism or Fresnel lens, which can distort the view out the window. The 787 door windows and the flight deck windows comply fully with the intent of the new regulation as proposed in NPRM 96-9, and they provide a level of safety equivalent to the vast majority of models in the jet transport fleet, which was the FAA's stated intent when codifying the requirement for an outside viewing means at the emergency exits. Passenger and crew safety will not be degraded by grant of this exemption

Federal Register publication

A summary of this petition was published in the Federal Register on July 27, 2009 (74 FR 37091). No comments were received.

The FAA's analysis

The FAA has reviewed the information provided by Boeing and has concluded that granting this exemption is not in the public interest for the reasons discussed below.

Boeing's summary of the regulatory evolution is generally accurate, although there are some important distinctions between how the FAA's objectives are characterized by Boeing, and what the FAA actually intended. Boeing notes that the notice of proposed rulemaking (NPRM)

characterized the requirement for outside viewing means as codifying an existing practice, rather than implementing a new standard and raising the level of safety. Boeing has interpreted this to mean the new requirement would have no effect, other than to document what was already being done. This is not what was meant. At the time the NPRM was written, most airplanes did, in fact, have a means to view outside that was at or near most exits. Many airplanes also incorporated body-mounted exterior emergency lighting that permitted viewing in dark-of-night conditions. Thus, the state-of-the-art included all the features necessary for compliance. The FAA did not intend to imply, nor did the NPRM state, that all airplanes incorporated these features, or that all features incorporated would automatically comply with the new rule. The NPRM was simply stating that compliance with the new rule did not require any new technology, or design considerations not already being used.

In addition, many of the statements referenced in the petition refer to the NPRM in total, which covered many subjects. In total, the NPRM was expected to codify many existing practices and therefore not have a significant effect on costs or benefits. However, each individual provision was acknowledged to have a different level of existing compliance, as acknowledged by the way in which they were implemented. For example, the provision for outside viewing was not implemented on a retrofit basis, because it would be too costly to do so, as noted by Boeing and discussed in the NPRM. Thus, it is clear that the provision would have an impact to retrofit into an existing design, and the FAA recognized this in implementing the rule. Conversely, the requirement that oxygen masks be attached to the oxygen supply did require retrofit, based on the relative simplicity and the benefits gained. This point will be discussed further later.

With respect to the lack of specificity in the NPRM regarding the need to provide viewing at night, the need to be specific was not obvious when the NPRM was written. The fact that the proposed rule addressed an emergency system, and that emergencies can occur at any time, during the night as easily as during the day, made this implicit. However, during the NPRM process and in conjunction with a specific ongoing certification program, it became clear that the need to address dark-of-night conditions may not be universally understood. Therefore, we added a discussion in the final rule to make it explicit. Boeing notes that the greatest threat is from fire, and that a fire will provide its own illumination. Thus a separate illumination system is not needed. We agree that fire is the most significant issue and probably would not require additional illumination in order to decide whether to open an exit. However, fire is not the only hazard for which opening an exit would be dangerous, and there are recent examples of accidents where other hazards, such as water and obstructions¹, presented risks to the occupants such that not opening an exit (because other “safer” exits were available) was the better course of action.

Boeing notes that, had the NPRM contained the same language as the final rule, they would have contested it. While there is no way to determine this now, it is likely that the provision would have had some comments, and therefore further discussion and explanation in the preamble to the final rule, particularly with regard to acceptable methods of compliance. Such discussions with applicants on an individual basis are therefore likely necessary, especially since the rule

¹ If the bottom of the exit is under water, opening the exit would flood the airplane cabin, impeding the evacuation process. If the exit is adjacent to an obstruction, opening the exit might cause an escape slide to deploy inside the airplane, also impeding the evacuation process.

makes a distinction between the risks associated with simply opening an exit versus the risks associated with using the exit once it is opened. However, even with this distinction, the rule does require a means to view outside conditions even in darkness.

Boeing also notes that, because the Model 787 project was already underway, and a certification basis that did not include the outside viewing requirement had been established, they did not elect compliance with the rule as the program evolved because of their concerns with the requirement. Boeing further explains design details of the Model 787 that illustrate that the outside viewing capability in daylight conditions is arguably better than most airplanes today. The FAA agrees that as far as the actual means to view outside conditions, the Model 787 has more than adequate features--with the exception of the means to illuminate the area to be viewed in dark-of-night conditions.

Boeing also discusses the applicability of the rule to flightdeck exits, and notes that the FAA indicated flightdeck windows would be sufficient to comply. They also note that no transport airplanes have an exterior lighting system designed to illuminate the ground outside the flightdeck. Because of the design of flightdeck exits, the considerations necessary are a little different.

The preamble to the final rule notes that the outside viewing means has two purposes: (1) to assess whether to open an exit, and (2) to assess whether to evacuate from that exit. We also noted that there might be a different viewing means to accomplish each purpose, and gave criteria to address each purpose. We also noted that since these were to be used in an emergency, which could occur under any lighting condition, the means needs to work under any lighting condition.

Flightcrew exits are well off the floor (in the case of the Model 787, over head) and so water ingress is not an issue. Because there is no deployment of an escape slide, flightcrew exits are not a risk if opened near an obstruction. Thus, fire is the principal threat that precludes opening the exit. As noted earlier, a fire provides its own illumination. So, an exterior lighting system is likely not needed to comply with the requirement relative to the first purpose, for flightcrew exits. Regarding the area of ground contact for flightcrew exits, further discussion is needed.

When the rule was written, we expected an exterior emergency lighting system would be necessary to comply. For flightcrew exits, which are typically located near passenger emergency exits, the same emergency lighting system could provide illumination for both exit categories. However, in some cases, a dedicated source of illumination might be needed. There are, however, flightcrew exits for which the point of ground contact cannot be seen from the airplane because of fuselage curvature, i.e., the path from the exit to the ground is not a straight line. In this case, the value of the illumination is questionable, since the person using the exit would not be able to see the illuminated location on the ground anyway. In those instances, an acceptable method of compliance may be to provide a general view of the outside area, and provide portable illumination, e.g., a flashlight for the flightcrew exit, that can be used by the crew. However, where there is a line of sight from the viewing window to the point of ground contact, exterior illumination is required, per the regulation.

Boeing's principal argument with regard to why compliance is not feasible and an exemption is in the public interest centers on the cost of redesign, and the subsequent additional weight the necessary exterior lighting system will require. As a result, Boeing has requested a permanent exemption for the Model 787 series airplanes. As noted in the petition and acknowledged in the NPRM, the FAA recognizes that a retrofit of an existing design to comply with this requirement could be expensive, relative to the benefits it provides. However, for a new design, the costs should be minimal compared with the benefits. Boeing has been aware of the scope of the requirement since the rule was issued, and although at the time, the Model 787 was not affected, they have also been aware for some time that the rule would likely become applicable to the Model 787. The Model 787 is a new airplane type design, and with respect to exterior emergency lighting is different than the vast majority of previous Boeing airplanes in that it has *no* exterior mounted emergency lighting. (Among the Boeing jet-powered models introduced prior to the acquisition of McDonnell Douglas, e.g., the, 727, 737, 747, 757, 767 and 777, only the 747 does not have exterior emergency lighting.) Boeing acknowledges in their petition that compliance with § 25.809(a) requires consideration of dark-of-night conditions and the FAA has been consistent in applying the rule this way with other manufacturers. If the FAA were to grant this petition as requested, it would create an unlevel playing field for other applicants, to whom this regulation applies.

Since the cost of a retrofit to meet this requirement is high, there may be some merit in a limited petition for exemption, that only addresses those airplanes for which manufacturing has proceeded to the point where compliance requires a retrofit. However, since Boeing did not make any proposals in this regard, the FAA has no basis on which to establish such a limitation. Should Boeing wish to reconsider their request, limited to airplanes already constructed, the FAA would entertain a new petition. As presented, however, the petition would allow noncompliance with a new requirement for an unlimited time, and an unlimited number of airplanes. This is not in keeping with the intent of the rule, nor equitable as compared to other applicants.

The FAA's decision

In consideration of the foregoing, I find that a grant of exemption is not in the public interest. Therefore, pursuant to the authority contained in 49 U.S.C. §§ 40113 and 44701, delegated to me by the Administrator, The Boeing Company is hereby denied an exemption from § 25.809(a), to

permit relief from the requirements that emergency exits have a means to view outside conditions under all lighting situations for the Boeing Model 787 series airplanes.

Issued in Renton, Washington, on November 3, 2009.

Signed by Ali Bahrami

Ali Bahrami
Manager, Transport Airplane Directorate
Aircraft Certification Service