

(2) The carrier may make the CRO available via telephone, at no cost to the passenger, if the CRO is not present in person at the airport at the time of the complaint. If a telephone link to the CRO is used, TDD service shall be available so that persons with hearing impairments may readily communicate with the CRO.

(3) Each CRO shall be thoroughly familiar with the requirements of this part and the carrier's procedures with respect to handicapped passengers.

(4) Each CRO shall have the authority to make dispositive resolution of complaints on behalf of the carrier.

(5) When a complaint is made to a CRO, the CRO shall promptly take dispositive action as follows:

(i) If the complaint is made to a CRO before the action or proposed action of carrier personnel has resulted in a violation of a provision of this part, the CRO shall take or direct other carrier personnel to take action, as necessary, to ensure compliance with this part. *Provided*, That the CRO is not required to be given authority to countermand a decision of the pilot-in-command of an aircraft based on safety.

(ii) If an alleged violation of a provision of this part has already occurred, and the CRO agrees that a violation has occurred, the CRO shall provide to the complainant a written statement setting forth a summary of the facts and what steps, if any, the carrier proposes to take in response to the violation.

(iii) If the CRO determines that the carrier's action does not violate a provision of this part, the CRO shall provide to the complainant a written statement including a summary of the facts and the reasons, under this part, for the determination.

(iv) The statements required to be provided in paragraph (a)(5) of this section shall inform the complainant of his or her right to pursue DOT enforcement action under this section. This statement shall be provided in person to the complainant at the airport if possible; otherwise, it shall be forwarded to the complainant within 10 calendar days of the complaint.

(b) Each carrier shall establish a procedure for resolving written complaints alleging violation of the provisions of this part.

(1) A carrier is not required to respond to a complaint postmarked more than 45 days after the date of the alleged violation.

(2) A written complaint shall state whether the complainant has contacted a CRO in the matter, the name of the CRO and the date of the contact, if

available, and include any written response received from the CRO.

(3) The carrier shall make a dispositive written response to a written complaint alleging a violation of a provision of this part within 30 days of its receipt.

(i) If the carrier agrees that a violation has occurred, the carrier shall provide to the complainant a written statement setting forth a summary of the facts and what steps, if any, the carrier proposes to take in response to the violation.

(ii) If the carrier denies that a violation has occurred, the response shall include a summary of the facts and the carrier's reasons, under this part, for the determination.

(iii) The statements required to be provided in paragraph (b)(3) of this section shall inform the complainant of his or her right to pursue DOT enforcement action under this section.

(c) Any person believing that a carrier has violated any provision of this part may contact the following office for assistance: Department of Transportation, Office of Consumer Affairs, 400 7th Street, SW., Washington, DC 20590, (202) 366-2220.

(d) Any person believing that a carrier has violated any provision of this part may file a formal complaint under the applicable procedures of 14 CFR part 302.

[FR Doc. 90-4998 Filed 3-2-90; 8:45 am]

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Federal Aviation Administration 14 CFR Parts 121 and 135

[Docket No. 25821; Amdt. No. 121-214 and 135-36]

RIN 2120-AC75

Exit Row Seating

AGENCY: Federal Aviation Administration (FAA). DOT.

ACTION: Final rule.

SUMMARY: This final rule regulates exit row seating in aircraft operated by U.S. air carrier and commercial operators (certificate holders), except on-demand air taxis with nine or fewer passenger seats. It requires that only persons who are determined by the certificate holder to be able without assistance, to activate an emergency exit and to take the additional actions needed to ensure safe use of that exit in an emergency may be seated in exit rows. This action is intended to further safety for all passengers.

DATES: Effective Date: April 5, 1990.

Compliance Date: October 5, 1990.

FOR FURTHER INFORMATION CONTACT:

Ms. Irene H. Mielsds or Mr. John Walsh, General Legal Services Division (AGC-100), Office of the Chief Counsel, 800 Independence Avenue, SW., Washington, DC 20591. Telephone: (202) 267-3473.

SUPPLEMENTARY INFORMATION:

Availability of Final Rule

Any person may obtain a copy of this final rule by submitting a request to the Federal Aviation Administration, Office of Public Affairs, Attention: Public Inquiry Center, APA-430, 800 Independence Avenue, SW., Washington, DC 20591, or by calling (202) 267-3484. Communications must identify the docket number of this final rule.

Persons interested in being placed on the mailing list for future notices of proposed rulemaking (NPRM's) and final rules should request from the above office a copy of Advisory Circular No. 11-2A, Notice of Proposed Rulemaking Distribution System, which describes the application procedure.

In an effort to make this information available in an accessible format to individuals who are blind or visually impaired and to other individuals who are print handicapped, the Federal Aviation Administration (FAA) will make available for copying a number of audio cassette tapes of the entire amendment (and the accompanying regulatory evaluation) in the FAA Rules Docket, Room 915G, FAA Headquarters, 800 Independence Avenue, SW., Washington, DC. In addition, single cassette tapes will be available in the Public Affairs offices of the agency's nine regional headquarters; at the Mike Monroney Aeronautical Center, Oklahoma City, Oklahoma; and at the FAA Technical Center, Atlantic City, New Jersey.

Background

Introduction

This rule prescribes requirements relating to the seating of airline passengers near emergency exits. The FAA has determined that a rule is necessary to establish clearly understood, consistent, and predictable practices regarding the seating of passengers in so-called "exit rows," and to prevent instances of arbitrary, unexpected, or unwarranted treatment by airline employees.

The issues addressed by the rule are among the most difficult and controversial ever addressed by the FAA, for they require, in the interest of what is essential for the safety of all

passengers, that some passengers be treated differently from other passengers, depending on their physical abilities.

The FAA must be satisfied that any differences in prescribed treatment are fully justified by the incremental gains in safety achieved thereby. The criteria set forth in the present rule have been weighed against this standard with the greatest care. The FAA is persuaded that, in this case, the standard has been met.

Mishaps in commercial aviation are extremely infrequent, but when they occur, survivability is a function of a great many regulatory decisions relating to the design and construction of the aircraft and its interior and to the procedures invoked by airline employees. Some of those decisions, in isolation, may seem small or "on the margin," but all are necessary elements to the total safety equation.

A critical prerequisite to survivability in many such circumstances is the fastest possible evacuation of the aircraft. Essential to the objective is the fastest possible safe opening of emergency exit doors, followed by the fastest possible movement of passengers through those exits and toward safety.

The FAA has determined, in light of the importance of maximizing the likelihood of a successful evacuation in the event of a mishap, and because of the pivotal role played by those passengers seated in closest proximity to airplane exits, that it is necessary to issue a rule, based on verifiable qualifications, establishing passenger eligibility to sit in an exit row.

Summary of the Rule

A passenger aircraft crashes. Inside the cabin, there are many survivors. A fire begins. If the passengers are to stay alive, they must get out of the aircraft as soon as they can. Seconds mean the difference between life and death. This is the scenario on which a crashworthiness standard is based. Many other FAA rules are intended to prevent a crash from ever happening. A crashworthiness rule assumes that a survivable crash has happened and then specifies certain actions to maximize people's chances of getting out alive.

This rule on exit row seating provides a crashworthiness standard. Exit doors must be opened quickly and properly if an emergency evacuation is to succeed. Often, crewmembers are not in a position to lead or conduct this part of the evacuation. Passengers sitting near the doors must perform the functions on which their lives, and the lives of their fellow passengers, depend.

What are some of these functions? *First, a passenger must be able to locate the door and quickly follow the instructions, written and oral, for its use.* Door operations and instructions differ from aircraft to aircraft. A delay in figuring out how to operate the door can cost precious seconds; operating it improperly can injure or result in the deaths of passengers.

Second, a passenger must be able physically to open the door. Doors are often heavy and clumsy to manipulate, and not every passenger can open them quickly.

Third, a person must be able to determine when to open the door. This involves being able to respond to shouted or hand-signalled instructions from flight attendants, as well as being able to tell when opening an exit would be too dangerous (e.g., because of fire on the adjacent wing).

Fourth, a person must be able to go quickly through the open exit, in order not to cause a traffic jam at the door, and perhaps to assist other passengers to leave the danger zone around the aircraft.

Fifth, a passenger must devote full attention to his or her emergency task. A passenger who must care for small children, for example, may be unable to do so.

The rule says simply that airlines shall seat in exit rows only persons who appear able to perform these and other relevant functions in an emergency evacuation. Persons who do not appear able to perform all the functions may sit in any other seat. Airlines also must take steps to inform passengers sitting in exit rows about what may be required of them in an emergency evacuation. By following these requirements, airlines will minimize the likelihood of passenger-caused evacuation delays that could cost lives.

In addition to the critical nature of the tasks just cited for opening the exit doors quickly, it is equally important that queues form readily and that evacuation proceeds as rapidly as possible. Therefore, in drafting this rule, the FAA had to consider not only the requirements for quickly opening the exit door (when and where appropriate) but also the requirements for initiating the orderly progression of the evacuees to safety, beginning at the exit rows.

As discussed further herein, this rule has been promulgated with full consideration of the Air Carrier Access Act of 1986 (ACAA), which prohibits discrimination in air transportation on the basis of handicap, but also requires that measures to eliminate such discrimination take into account the safety of all passengers.

During a regulatory negotiation to implement the ACAA, the participating groups representing persons with disabilities, the industry groups, and the Government were unable to reach agreement on the exit row seating issue. Accordingly, the Office of the Secretary of Transportation (OST), in an NPRM to implement the ACAA, formulated its own proposal on exit row seating (53 FR 23574; June 22, 1988). It took cognizance of the safety implications of exit row seating by proposing that carriers be prohibited from excluding persons from any seat on the basis of handicap, except in order to comply with an FAA safety rule.

This rule addresses the safety aspects of exit row seating and will result in some persons being seated in seats other than those in exit rows, based on the application of neutral, functional criteria. For example, young children, persons who are too large or too small, persons with some disabilities, and elderly persons who are physically frail will be seated in a location other than an exit row. This rule does not affect exit row seating in the on-demand operations of air taxis that have nine or fewer passenger seats. The purpose of a charter flight very well may be to carry a person whose disabilities make other commercial flights unavailable.

Summary of Comments

Notice of proposed rulemaking No. 89-8 was published in the *Federal Register* on March 13, 1989 (54 FR 10484). The comment period closed June 12, 1989. The FAA, in accordance with its standard policy, continued to accept comments and to consider them so far as possible without incurring expense or delay. Approximately 650 respondents registered their comments in the public docket on the proposed regulation as of July 28, 1989. Of that number, approximately 550 opposed the NPRM, while 90 supported it.

Individuals provided over 600 of the comments, while 40 came from various public or private associations and organizations. The largest number of individual comments came from blind persons or friends, associates, and relatives of blind persons. Individual comments also came from other persons with disabilities, passengers who have no disabilities, students, and flight attendants, pilots, and other persons connected currently or in the past with the aviation industry.

Representatives of organizations of persons with disabilities also commented. Again, the largest number came from groups with blind membership: the National Federation of

the Blind (NFB), the New Mexico Commission for the Blind, the Golden Triangle Council of the Blind, the American Foundation for the Blind, the American Council for the Blind, and various state or local affiliates of the NFB in Indiana, Alaska, Pennsylvania, Florida, Maine, New York City, Colorado, Kansas, Wisconsin, Maryland, Nebraska, South Carolina, Oregon, Georgia, and Connecticut, as well as from the NFB Federation Center for the Blind.

In addition, the national office of the NFB filed 2 volumes of materials and a 13-page unsigned document identified on the first page only as being from the "National Federation of the Blind." After the comment period closed, the NFB wrote to the Secretary of Transportation (the Secretary), concerning the exit row seating issues, reiterating the NFB's position and disagreeing with an internal, deliberative FAA memorandum which had come into the NFB's possession. This letter and the agency reply also were submitted to the docket. The FAA received over 200 form letters of several types, many without return addresses and/or legible signatures. We believe these also came from NFB members, since the comments made repeated those made by the national office, its chapters, and identifiable members. The FAA acknowledges these, but it has not included them in the count of commenters who wrote their own letters.

Commenters representing groups of persons with a variety of disabilities included: the National Association of the Physically Handicapped, the Society for the Advancement of Travel for the Handicapped, the State of Washington Governor's Committee on Disability Issues and Employment, the Paralyzed Veterans of America, the Disability Advocacy Organization, and the Southwest Center for Independent Living. The Architectural and Transportation Barriers Compliance Board (ATBCB), a Federal organization devoted to monitoring the implementation of the Architectural Barriers Act and related statutes and regulations, also commented.

In general terms, most of the blind individuals and their organizations oppose the NPRM, as do most of the organizations representing persons with other disabilities. Supporters of the NPRM, however, include some individuals and organizations who are blind or who have other disabilities. Also, while the NFB and its members oppose the entire NPRM and any seating restrictions, the other organizations are more selective in their comments,

opposing portions of the NPRM and offering alternatives.

The following organizations, representing facets of the aviation industry, commented: the Association of Professional Flight Attendants, the Retired Airline Pilots Association, the Association of Flight Attendants (AFA), the Air Transport Association of America (ATA), the National Transport Safety Association, Inc., Airport Safety Services, International, the Interaction Research Corporation, and the Regional Airlines Association (RAA). The National Transportation Safety Board (NTSB), an independent safety agency of the Federal government, also commented.

Those connected with the aviation industry are unanimous in their support of the NPRM. The ATA and the RAA, however, provided detailed comments on changes their members wanted to see reflected in a final rule.

The FAA also considered the comments and questions of Members of Congress who wrote to the Secretary, to the Administrator, or to the docket regarding the NPRM or related matters; a variety of published interviews or articles on the exit row seating issue; studies; accident records; the record of a hearing before the Subcommittee on Aviation, Committee on Commerce, Science, and Transportation, United States Senate, on March 14, 1989; relevant news articles and videotapes, and information made available to the FAA regarding an evacuation test held by World Airways at the request of the NFB. The relevant materials were placed in the docket.

Since most of the comments came from the National Federation of the Blind (NFB), its affiliates, and members, the NFB's issues will be presented first, along with the positions of other commenters on these issues.

Discussion of the Issues

The NFB focused on seven specific issues in its formal comments within the two volumes it filed. The NFB's affiliates and individual members tended to comment on several of the seven issues, but not on all of them. The seven issues, however, really made three major points, so they are grouped together, as indicated below, to reflect this.

Whether the FAA Has a Genuine Evidentiary Basis for the Exit Row Seating Rule

This issue combines points 1, 2, and 7 of the NFB's formal comments that question whether the FAA has substantial evidence, flight safety evidence, or other evidence that there is a safety necessity for the NPRM.

Basically, the NFB criticizes the evacuation study conducted by the Civil Aeromedical Institute (CAMI) of the FAA. Chiefly, the NFB criticizes the FAA for measuring blind persons only for their rate of movement from a given seat to the exit door or window; for not testing blind persons' capacity to perform other functions related to an emergency evacuation; for not limiting the test group to blind persons who are frequent fliers; and for using simulated blind persons in testing emergency evacuation through an over-the-wing exit. The NFB also alleges that the FAA's failure to issue a rule after completion of the CAMI study in 1973 shows that the study does not warrant such action.

The NFB also criticizes FAA's reliance on accident reports and other studies, stating that none of them show that blind persons ever caused an accident or slowed an evacuation. It alleges that in 1968 and 1976, blind persons actually were instrumental in the evacuation of passengers during aircraft emergencies. The NFB also alleges that an experiment the NFB conducted with World Airways in 1985 proves that exit row seating restrictions should not apply to blind persons. The NFB says that blind persons are capable of performing the functions that may be the responsibility of those persons sitting in emergency exit rows.

The Society for the Advancement of Travel for the Handicapped, whose former spokesperson also is blind, concurs in large measure with the NFB. The Paralyzed Veterans of America (PVA) comments adversely on the studies, stating that the FAA has not performed statistically valid tests on passengers with a variety of impairments, including old age, obesity, pregnancy, sobriety, and those related to various types of disabilities.

The criticism of the American Council for the Blind (ACB), another major organization with blind membership, is based chiefly on the limited number of functions tested by CAMI, but the ACB agrees with the FAA that it might not be feasible to test all the functions, especially those that could result in injury. It suggests additional testing and careful study of the World Airways experiment.

The aviation industry, conversely, supports the NPRM, the CAMI study, and the other data on which the FAA based its proposal. The RAA finds the CAMI data "compelling." The ATA states: "The studies cited in the NPRM are persuasive, empirical evidence that what common sense tells us is true: to allow persons with known physical

deficits to sit in exit rows will impede the process." All the other aviation groups and organizations support the FAA findings directly or indirectly by focusing on the need for speed in initiating the emergency evacuation, the dangers of any delay in the beginning phases of an evacuation, and the wisdom of placing persons in exit rows who are not limited by a physical or mental disability.

In regard to additional testing of functions that might have to be performed during an emergency evacuation, none of the disability groups commented on the fact that the FAA invited representatives of disability groups to accompany FAA staff to a certificate holder's flight attendants' training facility to enable them to demonstrate the proficiency of persons with disabilities in finding mechanisms, opening doors, removing over-the-wing exits, responding to flight crew instructions, and other evacuation functions. None of the disability groups accepted this invitation. Representatives from the ATBCB and the Association of Flight Attendants, however, did participate.

The information available from this training program is instructive. In the training devices of this certificate holder alone, there are at least 11 types of doors or emergency exits, each of which requires varying degrees of strength and agility to open and each of which operates somewhat differently from the others. During the notice period, several FAA representatives visited another major certificate holder's training facility where similar observations were made. It is reasonable to conclude that, given the differences in operating instructions and techniques, sight also would play a major role in successfully opening the door or exit in a timely fashion.

Findings of CAMI Study

The CAMI study, conducted in 1973, was designed to assess the effects of handicapped passengers aboard an aircraft during an emergency evacuation. CAMI's project was undertaken in response to the Civil Aeronautics Board's (CAB) request for clear safety standards in this area. Basically, the position of the CAB in 1972 was similar to that of the FAA today. It recognized that handicapped persons were encountering inconsistent practices and policies in the provision of air carriage. The CAB recommended that appropriate actions be taken, looking towards the issuance of safety regulations on this pressing problem. "Flight Standards Technical Division

Report on Air Transportation of Handicapped Persons," June 1973, p. 3.

As discussed further herein, the FAA elected not to regulate directly, in regard to exit row seating or other issues relating to the carriage of handicapped persons. Instead, by Amendment 121-133 (42 FR 18392; April 7, 1977) the FAA issued § 121.586 of the Federal Aviation Regulations (FAR), "Authority to refuse transportation," which allows air carriers to establish their own procedures for persons who may need assistance in an emergency evacuation.

In light of the FAA's experience under the current regulation, FAA finds that the CAMI research supports restrictions on exit row seating. A CAMI report on the subject states that:

The average ambulatory handicapped passenger appears to possess adequate mobility for escape. He could be seated anywhere in the cabin except in an exit row or a primary overwing exit route * * * "Emergency Escape of Handicapped Air Travelers," Report FAA-AM 77-11, July 1977, p. 36. (A copy of this report was entered in the Regulatory Docket).

This report was prepared for possible publication in scientific journals and, therefore, includes certain observations and tests conducted by the researchers that are not contained in the 1973 report by the FAA's Flight Standards Service, "Air Transportation of Handicapped Persons," Project Report No. 73-740-120A. Although both reports are based on the tests conducted in 1973, only the 1973 report, which contains no direct conclusions on exit row seating, was available at the time Amendment 121-133 was adopted. The research does make a number of findings relevant to the seating of persons with disabilities in exit rows. The agency simply did not have available the full, considered opinions of the researchers at the time Amendment 121-133 was adopted. Among the research findings are the following:

Persons with disabilities increased the exit time through floor-level exits in all cases, ranging from 3.9 seconds to 49.8 seconds. In the case of window exits, the increases ranged from 3.4 to 42.5 seconds.

Id., Tables 10 and 11, at 31 and 32.

Although the time needed to evacuate anthropomorphic dummies was somewhat higher than would have been the case for most human beings, the times required by actual persons with disabilities also were greater than those of the able persons.

Id., at 29.

These findings are relevant because, if these delays occur at the beginning of an exit queue during an emergency, the effect will be felt throughout the entire evacuation flow, as traffic backs up.

Rapid aircraft evacuation is necessary, of course, due to the hazards of fire, smoke, explosion, and flooding in the event of an inadvertent water landing. It is vital, therefore, to minimize evacuation delays in every possible way. In the CAMI study, the researchers concluded that aircraft passenger seating location could be used to minimize the delays.

In the CAMI study, information for the study of seat location was drawn from a variety of tests. These included:

- (1) An evaluation of individuals with handicaps, where individuals moved from one of three designated seat locations to a specific exit;
- (2) Evaluation of handicapped passengers who required assistance to move to an exit;
- (3) Evaluation of the evacuation of totally incapacitated passengers;
- (4) Evaluation of the evacuation of grouped handicapped passengers;
- (5) Evaluation of mixed group evacuations;
- (6) Evaluation of the effect of exit configuration on evacuation; and
- (7) A separate evaluation of the evacuation of a paraplegic subject. *Id.*, at 4 through 28.

Subjects were recruited from a variety of sources. Nonhandicapped subjects were FAA employees or were hired through the University of Oklahoma Office of Research Administration. Most handicapped subjects were recruited from participating organizations, such as the Oklahoma Foundation for the Disabled, the Oklahoma League for the Blind, the United Cerebral Palsy Rehabilitation Workshop of Greater Oklahoma City, and The Carver School. *Id.*, at 2.

One hundred sixty-two subjects, ranging in age from 15 to 84 years, participated. Eight had disabilities resulting from cerebral palsy; four from arthritis; three from polio; four from multiple sclerosis; two from muscular dystrophy; and five from birth defects. Eighteen were paraplegics; 2 were quadriplegics; and 15 were hemiplegics. Twelve were classified as elderly, either on the basis of age alone or on their physical condition. Their ages ranged from 55 to 84. Fifteen were totally blind. In addition, another person was classified as legally blind, and eight other persons were partially sighted. In addition, 22 normally-sighted persons performed as simulated blind passengers. Two were in casts and seven had fractures, amputations, or breaks that had mended poorly and affected their mobility. Seventeen had mental deficiencies and 7 had mental illnesses (depression or schizophrenia).

Two had no handicap and were capable of speed running. Four were obese, and four were deaf. *Id.*, appendix B.

Especially relevant to this rule are the results of the CAMI tests on group evacuations. The research team found that seating of handicapped passengers in a normal passenger population during normal flight conditions results in, at most, an occasional minor inconvenience to other passengers. They found, however, that under circumstances where the passenger cabin must be speedily evacuated, placement of the handicapped passengers becomes important.

Information for the study of seat location (for persons with non-sensory handicaps) was drawn from three test series: using an actual handicapped passenger in a passenger population of 24; using simulated handicapped passengers in a passenger population of 23; and using simulated handicapped passengers in a passenger population of 50. The simulated passengers were anthropomorphic dummies, to avoid injury to persons with actual disabilities.

Five tests involving the actual handicapped person, who required an assistant to carry him from the plane, showed that better evacuation times generally resulted when the handicapped passenger and his assistant were seated away from the exit. The implication of this finding is that evacuation times would be longer if the person were seated very near the exit, as in an exit row. This enabled the assistant to position the handicapped person on his back properly, without delaying passengers behind him and without experiencing difficulties himself, due to crowding and shoving. *Id.*, at 19.

In tests involving subjects simulating total incapacitation, one man assisting a fairly light dummy worked skillfully into the flow of passengers without delay. Evacuation of a 200-pound dummy from a seat near the exit was more difficult, and a delay of about 3 seconds resulted. *Id.*, at 19.

Placing the dummies at the farthest point from the exit, the extreme end of the passenger population, allowed the cabin attendant to establish a good evacuation flow immediately. The total evacuation of 23 live passengers took only 25.04 seconds. There was little delay in this test because most passengers were not detained by the action required to move the dummies and because their assistants had ample time to position them for transport while the forward line of passengers was evacuating. *Id.*, at 23.

When the simulated handicapped persons were placed in forward

positions (i.e., nearer the exit), only 6 passengers (including 2 dummies) exited in the same time (20 seconds) that 17 passengers exited when the dummies were placed at the farthest point from the exit. *Id.*, at 23.

Passengers with upper limb and sensory handicaps had the least delaying effect on passenger flow times once their seatbelts were released. *Id.*, at 34. The tests, however, measured only their capacity to move from their seats to an exit under optimum conditions. To safeguard the subjects, none were asked to use evacuation slides. None were asked to open emergency exits and to perform the other tasks addressed in this rule, all of which are much more demanding than the relatively simple task of leaving a seat and moving forward to an exit without the dangers of flame, smoke, debris, and panic.

It was suggested by some persons that there may be little or no relationship between a passenger's rate of movement from a seat to an emergency exit and his or her ability to open the exit and perform the other functions stated in the proposed rule. The FAA requested commenters to provide copies of any study that supports that thesis, but none was submitted to the docket. The CAMI study does not point to that conclusion.

Videotapes of the experiments, copies of which have been placed in the docket, show the effect of various disabilities on movement from the passenger seats to the emergency exit doors. In many cases, it is readily apparent that the cause of slow progress, such as the immobilized arm of a stroke victim, also would affect the person's ability to open an emergency exit door.

The videotapes also show that some passengers with a fairly good rate of movement down an airplane passenger compartment aisle would have trouble, nevertheless, opening the emergency exit door. A paraplegic with strong shoulders and arms, for example, could drag himself or herself toward the exit but would not have the stability to stand and remain upright to operate the emergency exit door or emergency overwing exit mechanisms.

The tests revealed that evacuation of the control group (persons with no handicaps) consistently was faster than that of groups with handicaps of all types. Further, the evacuation time increased in all handicapped groups when the evacuation test involved a window exit rather than a floor-level exit. It is significant that this rather modest increase in complexity, from a floor-level to a window exit test, resulted in increased evacuation times.

It is logical to conclude that additional complexity, such as finding and manipulating emergency exit opening mechanisms, would impose additional burdens on persons with handicaps and cause delays.

Given the results of the tests, the researchers concluded that ambulatory handicapped passengers could be seated anywhere in the cabin except in an exit row or an overwing exit route, where he or she might impede the early stages of an evacuation or be injured by the rush of other passengers.

Further, the researchers also found that "if nonambulatory passengers are seated in a group, the group should be seated in the cabin so that they, and their assistants, would be at the end of a line of evacuees so as not to interfere with the evacuation of other passengers and to avoid crowding by other passengers during their preparation for evacuation." *Id.*, at 36. Clearly, this preferred seating position for nonambulatory persons is incompatible with sitting in an exit row, which by its nature is likely to be at the beginning of a line of evacuees.

It should be noted that seating "at the end of a line of evacuees" does not necessarily mean being seated at the back of the airplane or being the last person to evacuate. The location of the emergency exits determines the end of the line. Between a forward exit door and a window exit, for example, it is likely that two exit flows will develop—one toward the door and one toward the window. The break between the two flows will tend to come at midpoint between the two exits.

While it always is possible that one of the exits will become inoperable in an emergency, thereby changing the anticipated passenger flow, the FAA studies show that this rule promotes the expeditious evacuation of the greatest number of passengers.

The FAA reviewed scenes from a videotape, made at the time of the 1973 CAMI study, which shows actual, as well as simulated, handicapped persons, in the process of evacuating a simulated transport category airplane fuselage section. While the study's statistics provide ample evidence of the difference between the evacuation times of passengers with and without disabilities, the film provides very graphic evidence of the difficulties of movement associated with certain types of disabilities. This tape is also part of the rulemaking docket.

The FAA also reviewed a study completed in October 1970 by the Office of Aviation Medicine of the FAA, entitled, "Survival in Emergency Escape

from Passenger Aircraft." (Document No. AM 70-16). This document discusses human factors relating to survival in emergency escapes from passenger aircraft. Data was secured from three actual accidents, with a total of 261 passengers, 105 of whom lost their lives.

The accidents involved a United Airlines DC-8, which crashed during a landing at Stapleton Field, Denver; a United Airlines Boeing 727, which crashed landed at Salt Lake City Municipal Airport; and a Trans World Airlines (TWA) Boeing 707-331, which crashed on takeoff from Fiumicino Airport in Rome, Italy. The study, a copy of which was entered in the Regulatory Docket, deals in detail with the emergency evacuations; the behavior of the passengers; their seat locations, the age, sex, and other characteristics of the passengers; the causes of death or injury, and the effect of the crashes on the emergency exits.

This study concluded that:

In aircraft accidents in which decelerative forces do not result in massive cabin destruction and overwhelming trauma to passengers, survival is determined largely by the ability of the uninjured passenger to make his way from a seat to an exit *within time limits imposed by the thermotoxic environment.*

(Emphasis added) *Id.* at 57.

That is, it is crucial that people evacuate quickly before heat, flames, toxic fumes, or an explosion kill or injure them.

In addition, the FAA reviewed a "Protection and Survival Laboratory Memorandum," No. AAM-119-87-6, dated November 5, 1987, based on CAMI "Accident/Incident Bio-Medical Data Reports." This memorandum was placed in the rulemaking docket. At the time of the November 5, 1987, memorandum, the CAMI Cabin Safety Data Bank contained 3,382 entries. Of these, 132 pertained to problems of persons with handicaps or with characteristics that are likely to affect their ability to activate an emergency exit and to take the additional actions needed to ensure safe use of that exit in an emergency. The memorandum focused on 50 of these entries in the data bank. While information in such a document is subject to additional evaluation or change on review of the data, conduct of additional testing, or receipt of additional facts, the memorandum lends support to the CAMI conclusions regarding problems encountered by the disabled and others during evacuation. The FAA also reviewed the 50 entries individually. All included problems affecting persons with physical disabilities, the aged, children, the obese, and others having characteristics

which could affect the evacuation process.

While the memorandum includes some reports of successful, rapid evacuation by persons with disabilities, the reports show rather dramatically that certain factors generally impede rapid evacuation—advanced age or extreme youth; parental responsibilities for minors; physical disabilities; obesity; injury or ill health; etc. Many of the persons impeded by these factors required the assistance of others to escape.

As a result of the studies and the other available data and information referred to herein, the FAA has concluded that it is more probable than not that persons with handicaps that prevent them from performing certain evacuation functions would be likely to impede emergency evacuation if seated in an exit row. This is especially true in an emergency where an exit row occupant is responsible for opening the exit. The data provide support for the FAA's conclusion that rulemaking is necessary to avoid the establishment or continuation of practices that are in derogation of the safety of all passengers.

The World Airways experiment, which was videotaped, has achieved considerable importance in light of the NFB's contention that it proves that exit row seating restrictions should not be applied to blind people. Since the NFB has not made the unedited videotape available either to the FAA or to World Airways, the FAA has relied on several eyewitnesses to the event. The eyewitnesses include two flight attendants and the managing editor of *Ninnescah*, a magazine that is published by an organization devoted to improving air travel for persons with disabilities. The flight attendants provided signed declarations, and the managing editor provided a copy of the issue in which he reported on the experiment. The FAA also studied the Report of a Senate Subcommittee on Aviation hearing held on exit row seating in Washington, DC, on March 14, 1989. At the hearing, the NFB leader, Dr. Kenneth Jernigan, discussed certain aspects of the experiment. These materials were entered in the docket.

After studying these materials, the FAA cannot agree, for the following reasons, that the World Airways exercise constituted a scientific experiment or valid study for the support of the NFB's position:

- (1) There was no testing protocol;
- (2) There appears to have been no pre-arrangement regarding the matter of neutral observers or instructions on what and where to observe;

(3) No formal report was issued;

(4) The only published report was written as a magazine article from memory or informal notes 2 years after the exercise;

(5) There was confusion as to the purpose of the NFB visit to the World Airways airplane; and

(6) practice sessions were used by the NFB to open the exit.

Other information which refutes the NFB's contention that the World Airways experiment proves that blind persons can perform the functions that may be the responsibility of persons seated in emergency exit rows include problems reported by the flight attendants who participated. These included the inability of the group to form a double line; hesitancy to jump without being pushed out; insistence by a woman with a guide dog that she be allowed to sit down, holding the dog, instead of jumping without it; inability to leave the slide rapidly at the bottom; and failure to catch some passengers when blind persons assisted at the bottom of the slide. One flight attendant reported that she was in danger of being shoved out of the exit due to her need to move forward to push some of the evacuees in order to make them jump.

The managing editor and the flight attendants reported in depth on a second evacuation, with the blind persons holding their canes, that had to be aborted due to the danger posed by the canes to flight attendants, other passengers, and the assistants at the bottom of the slide.

In addition, practice sessions were used by the NFB prior to opening the door. One flight attendant reported on the difficulty of briefing blind persons and of translating such terms as "red" and "white" tabs and "short" and "long" handles for persons without sight. In her briefing, she specifically pointed out that there were certain things they would not be able to do without the aid of a sighted person.

Finally, the exit row seating proposal contemplates aircraft evacuation performance by passengers, with or without the help of a flight attendant. In the World Airways experiment, flight attendants and other World Airways aircraft evacuation employees were involved in all of the evacuation processes.

In sum, the World Airway experiment had none of the scientific planning, controls, measurement, or analysis of the CAMI study on which the FAA relies. In the World Airways experiment, it appears that only one person actually opened an emergency exit door, and then only after repeated

practice. Only a limited group assisted at the bottom of the emergency exit slide, and no one opened an over-the-wing exit.

The question has arisen as to whether certificate holders should ensure that at least one seat is occupied in each emergency exit row. The FAA does not believe that such a requirement is necessary. Nearby passengers who are able to perform the necessary functions could move into an empty row rapidly to perform the necessary functions.

Some commenters suggest that the seats in all exit rows be removed or the aisles widened. The FAA does not believe that either approach would remove the need for positioning persons capable of performing the necessary functions near enough to the emergency exits to perform the evacuation functions that may be required.

Following are additional NFB comments:

Whether the FAA's Exit Row Seating Proposal Discriminates Against Persons With Disabilities, Especially the Blind

The NFB's 3rd, 4th, 5th, and 6th points are interrelated in that all deal in some manner with discrimination. Succinctly stated, the NFB contends that exit row seating restrictions for blind persons: (a) are contrary to the Air Carrier Access Act of 1986; (b) promote unlawful discrimination against the blind; and (c) result in a disproportionate restrictive impact on blind persons as compared with sighted persons.

Many of the individual blind commenters and the affiliates of the NFB appear to be under the impression that the NPRM singled out blind persons in regard to exit row seating restrictions. This same theme appeared in the official NFB comment and is difficult to understand, given the scope of the NPRM and the many other persons and types of disabilities covered. All organizations representing blind persons were notified that the NPRM and its related documents were available on audio cassettes for taping. It may be that some of these commenters were not made aware of that fact.

In varying degrees, the other disability groups concur that the proposal is discriminatory. They base this view largely on the fact that unseen disabilities will allow persons to sit in exit rows, while identifiable ones will not. The NFB also feels that blindness is not a disability and that it is discriminatory for the FAA to include blind persons in the category of "disabled." If this position were to be accepted, however, blind persons would be denied the protection of laws, such as

the ACAA, that prohibit discrimination against persons with disabilities.

The aviation community and other groups and individuals supporting the NPRM strongly disagree that exit row seating restrictions are discriminatory. One group of 12 individual signatories writes:

Some of us would probably be denied seats in an exit row under the proposed rule, due to age and/or questionable strength to handle an over-the-wing emergency door. We do not consider such denial 'discrimination.' On the contrary, in an emergency we would welcome being relieved of the responsibility for the prompt and safe evacuation of our fellow passengers. We plan when making future reservations by phone, mail, or through a travel-agent, to indicate that we do not want to be seated in an exit row.

The ATA's comment makes it clear that the ATA considers exit row seating a safety issue. It enclosed editorials from the New York Times and Aviation Week and Space Technology, both of which disagree that discrimination is involved.

The comments concerning discrimination were analyzed by the FAA in light of the ACAA and the Rehabilitation Act, both of which prohibit discrimination on the basis of handicap, and in light of relevant case law. The Air Carrier Access Act of 1986 (Pub. L. 99-435, October 2, 1986) prohibits discrimination in air transportation on the basis of handicap. The ACAA also requires that measures taken to eliminate such discrimination take into account the safety of all passengers. Specifically, it provides:

(c)(1) No air carrier may discriminate against any otherwise qualified handicapped individual, by reason of such handicap, in the provision of air transportation.

(2) For the purposes of paragraph (1) of this subsection the term "handicapped individual" means any individual who has a physical or mental impairment that substantially limits one or more major life activities, has a record of such an impairment, or is regarded as having such an impairment.

* * * * *

Sec. 3. Within one hundred and twenty days after the date of enactment of this Act, the Secretary of Transportation shall promulgate regulations to ensure non-discriminatory treatment of qualified handicapped individuals consistent with the safe carriage of all passengers on air carriers.

In order to formulate regulatory proposals implementing the ACAA, the Secretary of Transportation formed an advisory committee consisting of representatives from groups of persons with disabilities, the Government, and the air transportation industry (52 FR 19881; May 28, 1987). The Committee began meeting on June 3, 1987, under the

guidance of the Federal Mediation and Conciliation Service and was scheduled to present its recommendations to the Secretary in December 1987.

The Committee was unable to reach a consensus regarding a recommendation on exit row seating, which had been an issue of some concern to the Committee. Consequently, the Department (OST) had the responsibility of proposing its own provision on this subject, which it did in a notice of proposed rulemaking (NPRM) published June 22, 1988 (53 FR 23574). Concerning exit row seating, that NPRM proposed that carriers be prohibited from excluding persons from any seat on the basis of handicap, except in order to comply with an FAA safety rule. This rule is an FAA safety rule within the terms of the ACAA NPRM. This final rule, amending 14 CFR Parts 121 and 135, places restrictions on exit row seating on the basis of neutral, nondiscriminatory criteria applicable to all passengers. The statutory authority for Part 121 is 49 U.S.C. 1354(a), 1355, 1356, 1357, 1401, 1421-1430, 1472, 1485, and 1502; 49 U.S.C. 106(g) (Revised Pub. L. 97-449, January 12, 1983). The statutory authority for Part 135 is 49 U.S.C. 1354(a), 1355(a), 1421-1431, and 1502; 49 U.S.C. 106(g) (Revised Pub. L. 97-449, January 12, 1983).

Exit row seating has been the subject of FAA rulemaking in the past. In Notice 74-25 (July 2, 1974; 39 FR 24667), the FAA proposed a regulation, § 121.584, which would have provided that a handicapped person capable of traveling alone (e.g., a blind or a deaf person) could not be denied transportation so long as the person could be seated in any seat other than:

The two seats nearest an exit, and any seat in a row immediately adjacent to an exit with the exception of the farthest seat from the exit in that row.

In other words, the two seats nearest an exit would have been unavailable to all handicapped persons in all cases, and other seats in an exit row would have been unavailable as well, depending on the length of the row, with the exception of the seat farthest from the exit.

That proposal was not adopted. The FAA chose instead to adopt in Amendment 121-133 a rule allowing each certificate holder to develop procedures appropriate to its own operations and aircraft. The FAA, however, issued an advisory circular (AC 120-31; March 25, 1977, the same date as Amendment 121-133) to assist certificate holders in developing their own procedures, which provided

guidance on seating. Paragraph 9 of the advisory circular states:

9. SEATING HANDICAPPED

PASSENGERS. FAA's Civil Aeromedical Institute has conducted research to determine where handicapped passengers should be seated in an aircraft operated under parts 121 and 135 so that, in the event of an emergency evacuation, they can leave the aircraft, either unassisted or assisted, by the safest and most expedient route while not slowing the evacuation.

a. Those nonambulatory handicapped passengers should be seated in aisle seats where they would be near the end of lines of passengers being evacuated through floor-level, nonoverwing exits. Tests revealed that due to the narrow aisle width, an accompanying attendant trying to lift the handicapped person would temporarily block the aisle and hinder other passengers attempting to evacuate. Once the mainstream of evacuating passengers has passed, the attendant and the handicapped passenger can normally catch up to the flow since there is a bunching at the exit. Two nonambulatory passengers with attendants should not be seated directly across the aisle from each other because their attendants would interfere with each other while attempting to remove the nonambulatory passengers from their seats.

b. To determine the amount of assistance nonambulatory passengers will require to evacuate the aircraft, an agent should first ask the passengers what their capabilities are. If there is some question as to whether an individual is ambulatory or nonambulatory, the agent may ask him to perform a simple test such as transferring from a wheelchair, unaided, to another seat. Additionally, the passenger may furnish evidence of his capability, such as a driver's license or a statement signed by a qualified professional person (e.g. a physician or physical therapist).

c. Ambulatory handicapped passengers should be seated in areas in which evacuation would normally occur through a floor-level, nonoverwing exit.

The FAA's intent, in issuing this advisory circular, was that carriers would adopt reasonable seating policies consistent with the FAA's advice and consequently, to a significant extent, consistent with other carriers' policies.

The FAA's experience, including a review of a large number of carrier policies carried out in connection with the work of the advisory committee, suggested that FAA's intent had not been realized fully. Some carriers had not established seating policies fully consistent with the advisory circular. Carrier policies appeared to be inconsistent with one another in a number of cases.

Further, information available to the advisory committee showed that certificate holder personnel, in excluding persons from exit row seats, may have done so in the mistaken notion that an existing FAA regulation

required it or may have alluded to a non-existent regulation to "settle the argument." This, in turn, led to increased pressure from persons with disabilities to remove restrictions on seating handicapped persons in exit rows. Under these circumstances, the FAA determined that it was necessary to consider regulatory requirements concerning exit row seating.

The need to review and reconsider the FAA position was heightened by the provision of the ACAA NPRM, referred to above. Concerning seat assignments, proposed § 382.31 states:

Carriers shall not exclude any person from a seat in an exit row or other location or require that a person sit in a particular seat, on the basis of handicap, except in order to comply with the requirements of an FAA safety regulation.

This formulation contemplates consideration of an FAA proposal on this subject. Unless the FAA promulgated a safety regulation on exit row seating, the proposed provision of the rule implementing the ACAA would abolish all air carrier seating policies in effect, and it would prohibit the institution of new ones, regardless of valid safety considerations. For all the foregoing reasons, the FAA determined to reexamine the issue of exit row seating from the standpoint of both discrimination and safety.

Whether the FAA Exit Row Seating Rule Will Compromise Air Safety

The NFB believes: (1) That it would be safer to populate exit rows with blind persons than with persons who imbibe alcoholic beverages, and (2) that blind persons perform better in the dark than sighted persons and thus could be more effective than others during an emergency evacuation.

The blind community is joined by the ATBCB in identifying the service of alcohol in exit rows as a problem. The comments, generally, discuss alcoholism as an abstract problem, rather than accounts of actual experiences with inebriated passengers. The NFB's submissions do include an article published in the "Braille Monitor," on this topic. The article includes, among other things, statistics on the amount of liquor sold on air carriers; comments by a spokesperson for AFA on drinking as a problem on air carriers; and the results of blood alcohol level tests of passengers after an emergency landing by an Air Canada DC-9 in 1983. The ATA comments that its members believe that sufficient protection would be provided by current § 121.575 of the FAR, which prohibits boarding inebriated persons or serving alcohol to those who become inebriated while on

board, and by the proposed exit row seating rule. In addition, this exit row seating rule applies to *all* persons who appear incapable, for whatever reason, of performing the functions necessary during an emergency evacuation. If a crewmember has reason to suspect that a person is inebriated, even if he or she is not showing easily discernible signs of such inebriation, the crewmember will have the authority to refuse to seat the person in an exit row or to move that passenger to another seat. In view of these authorities, the FAA does not believe that further restrictions are necessary at this time. The FAA will consider carefully, however, any evidence brought to its attention regarding this issue in the future and take such action as may be necessary.

The NFB's argument regarding the performance of blind persons in a smoke-filled or otherwise totally-dark cabin may have some merit. It appears to be based on the assumption, however, that darkness is the rule rather than the exception.

Most of the aviation organizations that commented focus on the need to see external fires as one of the important functions that must be performed. Such fires provide light, as do daylight, floor lights, door lights, and airport lights. Even in smoke-filled cabins, it often is the case that a glimpse of light finally leads people to safety. The NFB cites two instances in which blind persons ostensibly led others to safety in emergency evacuations. The FAA has insufficient information on the conditions of the evacuations, the locations of these two individuals on board the aircraft, the extent of their disabilities, etc., in order to form a judgment. Even conceding that these two individuals performed heroically, however, the FAA believes that two actions cannot outweigh the clear advantage of sight in most evacuations.

This was illustrated dramatically during the NBC "Today Show," July 20, 1989, when two survivors of the recent crash of United Air Lines Flight 232 were interviewed. When the DC-10 crashed, en route from Denver to Chicago, it burst into flames, and smoke filled the cabin. Eventually a glimpse of light enabled one of the interviewed passengers to make his way out of the aircraft.

The same passenger, by spotting an external fire, decided not to open an exit that would have admitted the smoke and/or flames into that part of the cabin. A second passenger was responsible for leading to safety two other passengers, including a woman who had arrived in a wheelchair but had

some mobility. A videotape of these interviews was entered in the docket, along with other comments and documents that were late, but which the FAA was able to take into consideration.

It is the view of the FAA, therefore, that this rule does not compromise safety as alleged by the NFB but carries out the concern of Congress that safety not be sacrificed in the course of implementing the ACAA.

While the ACAA protects the civil rights of handicapped persons, it also by its terms mandates continued concern for safety. The legislative history amplifies the safety theme. The Senate Report focused on this issue at several points. It states that the statute "does not mandate any compromise of existing DOT or Federal Aviation (FAA) safety regulations." Sen. Rept. 99-400, August 13, 1986, p. 4. The FAA's existing rules allow carriers to establish their own procedures for persons who may need assistance in an emergency evacuation (§ 121.586 of the FAR), but they do not cover specifically the role of exit row seating in air safety. Consequently, the FAA found it necessary to address the issue directly. In drafting this final rule to regulate exit row seating, the FAA remained mindful of both the words of the Act and the expressed Congressional intent regarding safety and civil rights.

The FAA notes, for example, that the Senate Report states that it was intended that certificate holders will not "impose upon handicapped travelers any regulations or restrictions unrelated to safety and unrelated to the nature and extent of any individual's handicap." *Id.* at 4. This rule is wholly consistent with the ACAA.

It is clear that the principles enunciated by the courts with respect to discrimination under Section 504 of the Rehabilitation Act apply to the ACAA. The legislative history shows that Congress passed the ACAA specifically to close a gap in the Rehabilitation Act. During consideration of the Senate bill, S. 2703, Senator Dole stated specifically that the purpose of the legislation is to "overturn the recent Supreme Court decision in the case of Paralyzed Veterans of America versus the Department of Transportation. This case, which was handed down by the high court in the closing days of its spring term, held that section 504 of the Rehabilitation Act of 1973 'is not applicable' to U.S. carriers, except for those few small regional carriers who receive direct Federal subsidies." Congressional Record, August 15, 1986, at S11784. Senator Alan Cranston and

Senator Howard M. Metzenbaum also addressed this point. *Id.* at S11787.

Similarly, in discussing the House version of the bill, H.R. 5274, Congressman John Paul Hammerschmidt stated:

Unfortunately, our efforts on behalf of the handicapped were set back by the recent Supreme Court decision in the case of Paralyzed Veterans of America versus DOT. In that case, the Court decided that the Rehabilitation Act, which prohibits discrimination against the handicapped, did not apply to [unsubsidized] air travel * * *

Congressional Record, September 18, 1986, at H7193.

Congressman Gary L. Ackerman expressed similar intent:

As you know, Mr. Speaker, last summer I introduced similar legislation to amend the Federal Aviation Act immediately following the Supreme Court ruling that major airlines cannot be forced to comply with the Rehabilitation Act because they do not receive direct Federal assistance.

Id., at H7194.

Given this recognition of the interrelationship between the Rehabilitation Act and the ACAA, logic requires that the standards set by the Supreme Court in *Southeastern Community College v. Davis*, 442 U.S. 397 (1979) and in *Alexander v. Choate*, 469 U.S. 287, 105 S. Ct. 712 (1985), regarding "reasonable accommodation" and "meaningful access" under Section 504 of the Rehabilitation Act, apply to the ACAA as well. The exit row seating restriction established by this rule is narrowly defined and does not constitute a barrier to meaningful access to air carrier transportation.

In addition, the rule is in accord with other governing judicial decisions. The Supreme Court has held that nondiscrimination on the basis of handicap does not require the imposition of undue financial and administrative burdens, nor does it require modifications that would result in a fundamental alteration of the nature of a program. *Southeastern*, 3 at 405; *American Public Transit v. Lewis*, 665 F.2d 1272 (D.C. Cir. 1981). In *Alexander*, the Supreme Court again examined the extent of accommodation required for persons with disabilities, finding that in *Southeastern* a balance was struck between "two powerful but countervailing considerations—the need to give effect to the statutory objectives and the desire to keep Section 504 [of the Rehabilitation Act] within manageable bounds." *Alexander*, at 299.

The Supreme Court concluded in *Alexander* that "the balance struck in *Davis* [*Southeastern*] requires that an otherwise qualified handicapped

individual must be provided with meaningful access to the benefit that the grantee offers * * * to assure meaningful access, reasonable accommodations in the grantee program or benefit may have to be made." (Emphasis supplied.) *Alexander*, at 301.

These principles and section 3 of the ACAA require carriers to ensure meaningful access to air transportation and the FAA to consider the potential safety impact of seating policies that are necessary for transporting passengers with the maximum degree of safety. Banning all persons with disabilities from particular seats, or requiring all disabled persons to sit in particular seats, would be unlawful discrimination because such a policy would be overbroad or unreasonable; but the exclusion of persons with certain disabilities from the seats covered by the rule for legitimate safety reasons does not deprive them of "meaningful access" to air carrier transportation. Exit rows provide only a small fraction of the available seating in the air carrier fleet. The rule does not bar any person from a seat unless that seating location adversely affects his or her safety or that of other passengers. It is the intent of the rule that a person with a disability not be denied transportation as a result of the safety restrictions established by the rule. There is a remote possibility, however, that such a denial could occur. Denial of transportation conceivably could occur when the aircraft configuration is such that, due to the nature of the person's handicap, the only seat which can physically accommodate the person is one that is covered by the rule. Such a situation is most apt to involve a small aircraft having only one exit. In such circumstances, there is often no flight attendant, and the need for a passenger to perform the emergency functions set forth in the rule is vital.

The FAA also received many technical comments from both the disability and the aviation groups. Some issues were raised only by one type of group, without comment by the other, depending on the vantage point or orientation of the commenter. The disability and the aviation issues are presented below.

Whether a Solution Can Be Found by Removing All the Seats in Exit Rows

Many persons who opposed the NPRM would not oppose removal of the exit row seats to enhance safety. These commenters do not specify what should be done about the other rows nearest the exits. There would remain the question as to whether seating

restrictions should be applied to those rows, if the exit row seats were removed. If nearby rows were not restricted, it is conceivable that their occupants would not be the persons with the greatest potential for assuming successfully the emergency evacuation duties.

Whether a Solution Can Be Found By Leaving All Exit Row Seats Vacant

A number of persons who oppose the NPRM would not be opposed to leaving all exit row seats vacant. There still would remain the question as to whether seating restrictions should be applied to other rows. The aviation industry did not raise or comment on this issue.

Whether the FAA Should Concentrate on Studying Seat Configurations, Aisle Widths, the Number of Seats, Door Mechanisms, and Other Factors That Affect Evacuations, Rather Than the Abilities of Persons With Disabilities to Lead an Evacuation

The ATCB and several disability groups recommend that the FAA find other ways to ensure rapid emergency evacuations, such as improving seating configurations and other factors, instead of focusing on restricting persons with disabilities. One commenter recommends strongly that the FAA require seats to be reversed to face the aft section of the aircraft, claiming that this configuration has been proved safer. A recent article in "FAA World," by a president emeritus of the Flight Safety Foundation, addresses this point, indicating that it is questionable that backward seating enhances safety sufficiently to offset other dangers and discomforts which would arise. A copy of this article was entered in the docket.

The AFA, on the other hand, credits the FAA with its overall concern for passenger survivability, stating: "[W]e believe that the FAA's proposal to regulate exit row seating is non-discriminatory, as well as long overdue. It is nondiscriminatory because the agency is not singling out one aspect of cabin safety to raise to a high standard, while leaving the rest at some modest level." The AFA mentions specifically the following recent or current FAA rulemaking projects: requirements for seat fire-blocking layers; new flammability rules for the entire cabin interior; new seat strength standards for new aircraft types; floor-level lighting; automatic fire extinguishers in lavatories; new carry-on baggage rules; new requirements for cargo liners; the placement of better seats on existing aircraft; fire extinguishers in cargo compartments that currently lack them;

and a maximum distance restriction between exits. As the AFA has indicated, the FAA is addressing a wide spectrum of cabin safety problems, and it will continue to do so. The FAA believes, however, that exit row seating constitutes one of these problems and warrants attention at this time.

Whether Passenger Information Cards Should Be Made Available in Braille, on Tape, or in Large Print

The ACB and some blind individuals recommend the provision of passenger information cards in Braille and in large print, regardless of whether blind passengers sit in exit rows, in order to facilitate their emergency evacuation. This suggested action also is outside the scope of the NPRM. It is the understanding of the FAA, however, that some air carriers already are carrying a limited number of Braille cards to make available to blind passengers. Further, a conference held by the FAA on aircraft occupant safety in November 1988 resulted in a recommendation for improved communication of safety information to blind or otherwise handicapped passengers. Although action on this would be outside the scope of the NPRM on exit row seating, the FAA intends to support improved communication and the availability of a certain number of Braille cards through an advisory circular.

Whether Written Procedures for Making Determinations Regarding Exit Row Seating Should Be Available in Braille, Large Print, and on Cassettes at All Loading Gates and Ticket Counters, Along With Information on How Aggrieved Passengers May Appeal to the FAA

The ACB proposes the above. The ATA, conversely, objects to any requirement to maintain written copies of procedures at all passenger loading gates and ticket counters, stating that the cost of complying with this requirement would far outweigh the potential benefit. As an alternative, the ATA suggests that written copies of any sort should be maintained at a central location. The RAA also proposes that copies should be maintained at a central location, namely, where the contract of carriage is kept. Neither the ATA nor the RAA addresses the issue of procedures in Braille, large print, or on cassettes.

At the regulatory negotiations relating to the ACAA, representatives from disability groups voiced their strong concern and frustration regarding the general unavailability of the procedures and information affecting air

transportation for persons with disabilities. The FAA believes their comments and similar ones received in response to the NPRM have merit.

The FAA recognizes that, in general, it is satisfactory and certainly more economical to maintain the various procedures and other documents relevant to an air carrier's operations in a central location. The FAA believes, however, that the rule lends itself to relatively simple procedures which can be reproduced at minimum cost and made available to interested persons at the gates and counters.

Whether the Procedures Will Require Testing or Quizzing and Medical Expertise on the Part of Air Carrier Personnel or Crew

Both the ATA and the RAA comment that the NPRM seems to call for quizzing or testing passengers as to their capacity to perform the emergency evacuation procedures. They state that this would require medical expertise on the part of the air carrier personnel or crew, since they would have to evaluate the responses of the passengers. The ATA and the RAA also state that quizzing or testing would be demeaning and embarrassing to the passengers. The view of the ATA and the RAA is that air carriers should be required only to make reasonable decisions based upon observation.

The FAA agrees that quizzing or testing passengers as to the state of their mental or physical disabilities and their capacity to perform the evacuation functions would impose an undue burden on the air carriers. In drafting the NPRM, the FAA did not envisage such procedures. It is clear that even a full-scale physical and mental examination would not be foolproof. A person in excellent health could faint with fright during an emergency. Athletes with no record of illness have been known to suffer heart attacks. Strokes can occur with little or no warning.

This rule cannot guarantee that exit row passengers will be able to perform the necessary functions. It only can maximize the chances for selecting persons most able to begin and lead an emergency evacuation. Further, it must do so in a practical way—a way that can be implemented in the midst of a busy airport, with a multitude of passengers waiting in line or boarding, and with schedules to meet.

The FAA also concurs with the ATA and the RAA that most quizzing and testing would embarrass passengers. The FAA believes, however, that there may be a few situations where some

minimal questioning would be appropriate. If there is doubt regarding a person's capacity to hear, speak, or understand the English language, flightcrew or other personnel could ask a simple question. This would not involve a medical determination. Questions of this nature simply would ascertain a fact. They should prove no more embarrassing than queries as to whether a certain piece of luggage will fit beneath the seat or whether a person's seat belt is fastened.

The FAA does not anticipate, therefore, that a carrier's procedures for selecting exit row occupants will include detailed standards regarding the physical or mental abilities of passengers. It is the FAA's view that the rule is sufficiently explicit regarding the criteria for selection and the functions to be performed to allow the air carriers to make determinations based upon reasonable observation.

The procedures must contain, in addition to the selection criteria and the functions to be performed, as set forth in the rule, information on when and by whom the determinations will be made; identification of the office or person to whom to complain in the event of a disagreement; how moves to other seats will be handled; and other similar aspects of the process.

The FAA intends to provide detailed guidance on these aspects of a carrier's procedures, but it assumes that determinations will be made largely on the basis of observation and perhaps on some simple questions as discussed above.

Whether Passengers Who Are Seated by Mistake in Exit Rows Should Be Moved

The ACB raises the issue of reseating, but its comments are not entirely clear. It states initially that § 121.585(k) of the FAR "should be clarified to make it crystal clear that determinations once made by a carrier employee to assign a passenger to an exit row seat will not be changed, if the passenger prefers to keep that seat."

The ACB also states, however, that "If this rule is adopted and if a blind person is assigned to such a seat by mistake, the carriers must be forced to correct the mistake in the most discreet, courteous, and sensitive manner."

The ACB also states: "We believe that if a blind person is moved from an exit row seat against his will and it is not possible to place him in a comparable seat on the same plane, he should be compensated to the maximum possible extent *vis-a-vis* reaccommodations on the next flight, cash payment, and payment for consequential damages."

Objection to movement was universal on the part of those who commented on this, but for different reasons. The handicapped groups cite humiliation and discrimination. The industry groups cite delay or movement at an inappropriate and dangerous time, such as after the plane has started taxiing or before the captain permits unfastening seat belts after takeoff. The ATA comments on some loss of control over passengers, where the movement results from a passenger's decision to "opt out" of an exit row (whether based on health, fear, or unwillingness to perform emergency evacuation functions).

The ATA also objects to reseating on the basis that this would require "testing" on the part of the flight attendants, rather than the use of best efforts to keep out of exit rows those passengers who do not appear to be able to perform the functions required. It states that subsequent moves, coupled with the movement of persons who themselves "opt out" of the exit row seating, could result in tremendous delays.

The ATA points out that on an average day, more than 18,000 commercial passenger flights carry 1.25 million passengers. If an average of 10 passengers on each flight must be evaluated and if only 3 minutes are spent confirming their qualifications or reseating them, the total time spent complying with this requirement would be 9,000 hours per day.

The RAA also comments unfavorably on the movement of persons that may be seated in exit rows erroneously, but it supports "opting out," if done prior to takeoff.

In regard to its objection to allowing persons to "opt out," the ATA believes that persons should not be given this option, since it believes some persons may use this simply as an opportunity to obtain another seat more to their liking and will delay other passengers unnecessarily.

The RAA suggests that "opting out" should occur prior to entering the plane. It suggests that briefing cards be given to exit row passengers by the ticket agent. If, after reading the briefing cards, passengers do not wish to sit in the exit rows, they would be issued new seat assignments at the gate, minimizing the need for onboard reseating. The RAA points out that this also would eliminate the need for a lengthy oral briefing to the general passenger population. The RAA suggests that flight attendants or the second officers could collect the cards when the final cabin check is made.

The FAA concurs that onboard reseating should be minimized and

believes the RAA suggestion should be followed whenever possible. Clearly, this would provide maximum control and eliminate delays in most cases. The exceptions would be cases where persons have second thoughts after explaining, where persons attempt to hide disabilities, or where persons believe their disability to be inconsequential, even though the air carrier does not.

In these cases, and in all others where the air carrier notes that an error has been made, the passenger should be moved prior to takeoff, if at all possible. If taxiing has begun or takeoff already is underway, this rule does not require that the passenger be moved. Obviously, this would create dangers as great or greater than allowing the person to remain in place until the craft is airborne. To some extent, the crew's discovery of the problem already will have ameliorated some of the danger. They can remain alert in regard to the location of the problem until they are airborne; they can prepare the passenger to move; and they can alert another passenger to be ready for a seat exchange.

In regard to lengthy oral briefings, the FAA concurs that these might be counter-productive. A brief reference to the special cards in the exit rows, regarding the emergency functions to be performed, should suffice, if delivered with appropriate emphasis. Such emphasis already is being given to limiting carry-on luggage to two pieces and to stowing it completely under the seat or in the overhead compartment. Some air carriers already are asking persons to forego conversation or reading during the briefing and to look at the cards or a video while the flight attendant reviews the safety features as a whole.

Whether the FAA Should Consolidate This Rulemaking With a Rulemaking Pursuant to the ATA/RAA Petition for Rulemaking on Limiting the Number of Passengers With Disabilities and on Requiring Attendants for Passengers with Certain Disabilities

The ATA and the RAA petitioned the FAA to consolidate the exit row rulemaking with rulemaking regarding two issues: (1) limiting the number of passengers with certain disabilities that could be carried at one time on any given flight, and (2) requiring assistants for passengers with certain disabilities.

This is a very specific rulemaking concerning a specific safety issue that the FAA has identified. It would be well beyond the scope of this rulemaking to consider other, far broader issues raised in the ATA and RAA petitions. The

issues of refusal of service (including number limits) and attendant requirements are being considered as part of the rulemaking implementing the ACAA, in which ATA's and RAA's extensive comments are being fully taken into account. Consequently, it would be inappropriate to consider these issues as part of this rulemaking.

Further, the CAMI study demonstrates that any form of disability increases the exit time of an individual and can increase the overall exit time of the passengers as a whole. The salient question then becomes: "What practical steps can be taken to ensure that both the able and disabled passengers complete the emergency evacuation in the least amount of time possible?"

The FAA, after full analysis of the problem, believes that one practical step is to establish exit row seating restrictions. The exit row functions are definable, clear-cut, and absolutely essential to the emergency evacuation process. Even if an exit becomes unusable, this does not alter the need for capable passengers in that row to identify that the exit is unusable, to redirect other passengers, or to lead the way to another exit. When considering the factors that affect emergency evacuations, exit row seating is a variable that consistently remains of prime importance. It always will impact upon the capacity of all passengers to evacuate the airplane. Only if *all* the passengers in *all* the exit rows become incapacitated or if *all* exits become unusable will the requirement be moot.

In contrast, the presence of attendants and limitations on the number of persons with disabilities constitute variables of less demonstrable significance. It is possible to demonstrate conclusively that the inability to open an exit door always will affect other passengers. It is not possible to demonstrate conclusively that the presence of an attendant always will affect positively the egress of other passengers. The attendant may fail to assist his or her disabled companion, who may or may not then block other passengers. Able passengers, who were not required to have attendants upon boarding, may be injured and become disabled by virtue of the accident itself. A non-working exit door may alter the flow of traffic and affect the attendant's ability to move a disabled companion without blocking others. The attendant, in fact, may become disabled.

In short, while it is certain that exit row seating will influence the overall speed of the evacuation, it is conjectural that the presence of one or more attendants will do so. The FAA

recognizes, of course, that attendants may be necessary to assist persons with certain disabilities in the course of ordinary activities, such as eating, stowing carry-on baggage, taking medication, or moving about the aircraft. That is a service question, however, and not a safety one.

It is somewhat less conjectural that the number of passengers with disabilities will affect the evacuation rate, but the FAA believes that limitations may not be feasible, except where the size and configuration of the aircraft demand them. The right to travel has been interpreted by the courts to be constitutionally protected. As already discussed, the law also requires meaningful access to air transportation for persons with disabilities. In the case of exit row seating, the right to travel is not infringed, and meaningful access is assured. Further, the exit row seating restrictions apply not only to persons with disabilities, but to parents with small children, obese persons, pregnant women, the elderly frail—a wide spectrum of the passenger population. It could be argued that persons in these categories, therefore, also will affect the speed of evacuation and should be restricted by number.

Clearly, it is not desirable to limit air travel to adults in the prime of their lives, both from the standpoint of age and health. Even limitations short of that would require, in the estimation of the FAA, concrete evidence of detriments to safety that require restrictions on the right to travel. This was not produced during the NPRM comment period. If such evidence is brought to the attention of the FAA, it will reopen the question.

Whether Additional Testing Should Be Undertaken by the FAA, Regarding Attendants and Number Limitations

In 1986, the Office of Science and Technology Policy (OSTP), Executive Office of the President, published a notice regarding a "Proposed Model Federal Policy for Protection of Human Subjects," as a response to the First Biennial Report of the President's Commission for the Study of Ethical Problems in Medicine and Biomedical and Behavioral Research (51 FR 20204; June 3, 1986). The OSTP's response was made on behalf of all the affected Federal agencies, including the Department of Transportation, which had concurred with the Model Federal Policy. *Id.*, at 20216.

While the OSTP has not as yet issued a final statement of policy, the Department of Transportation has voluntarily adopted the principles of the proposed model Federal policy. With

certain exceptions not relevant to this discussion, the policy applies to all research involving human subjects conducted, supported, or otherwise subject to regulation by any Federal department or agency that takes appropriate administrative action to make the policy applicable to such research. The Department of Transportation has not taken formal action to make the policy applicable; but, as stated above, it has concurred with the policy.

In brief, the policy calls for careful review of all proposed research involving human subjects, to make certain that:

- (1) Risks are minimized;
 - (2) Risks to subjects are reasonable in relation to anticipated benefits, if any, to the subjects;
 - (3) Selection of the subjects is equitable;
 - (4) Informed consent has been given by each subject or the subject's legally authorized representative, and the informed consent is appropriately documented;
 - (5) The data collected will be monitored to ensure the safety and privacy of subjects; and
 - (6) Subjects likely to be vulnerable to coercion or undue influence, such as children, prisoners, pregnant women, mentally disabled persons, or economically or educationally disadvantaged persons are afforded additional safeguards to protect their rights and welfare.
- In view of this, the FAA has not performed studies that replicate certain types of external or internal hazardous conditions. The FAA has not performed studies that include a panic situation in an emergency evacuation, nor has it sponsored competitive emergency evacuations.

In Great Britain, on the other hand, competitive emergency evacuations are performed for experimental purposes. In effect, volunteer "passengers" are rewarded financially for being first to exit the plane or for escaping within a given time. Persons are encouraged to perform as they would during an actual emergency.

Behavior under such circumstances can be extreme. Unlike the orderly progress toward exits required in FAA experiments, competitive emergency evacuations can and do include shoving, screaming, climbing over other passengers, etc. Common sense indicates that under such conditions, volunteers can be injured, especially if physical or mental disabilities add to their vulnerability.

The FAA believes that the end result of such competitive testing would not differ, except in degree, with studies already performed.

Whether the Requirements Regarding Children in Exit Rows Should Be Simplified by Eliminating All Children From Exit Rows

The ATA suggests that the final rule be simplified by directly banning all children from exit rows. As written, the NPRM affected small children by indirection only, whether traveling alone or with an adult, by describing the types of functions that must be performed during an emergency evacuation and the skills necessary for performing those functions. All of the required functions clearly are beyond the capabilities of small children. The intent of the NPRM was to eliminate young persons who would require the assistance of an adult companion (relative, guardian, etc.) during an emergency evacuation or who, due to their age or size, would not have the cognitive or physical ability to perform emergency evacuation functions, if traveling alone.

The FAA concurs that simplification is desirable and that children should be banned from emergency exit rows. Dictionaries define a "child" variously as someone between "infancy" and "youth" or a person between "birth" and "puberty" or "adolescence." Since persons vary in their maturation and growth, it is difficult to establish a clear cut-off point between childhood and adolescence. A number of existing laws, regulations, and practices, however, point to the age of 15 as a turning point into adulthood. In many States it is the age when driver's licenses and work permits become available. In view of this, the FAA has selected 15 as the necessary minimum age for exit row occupancy.

Whether the Definition of "Exit Row" Should Be Narrowed To Take Into Account Varying Fleet Configurations Among Airlines

The ATA comments that certain exit rows could be excluded from the scope of the rule, if all of the following criteria are met:

- (a) The nearest seat in the exit row is at least 36 inches from the exit;
- (b) The width of the access aisle is at least 22 inches; and
- (c) The exit is a floor level exit (one without a sill).

The ATA claims that exit rows meeting the above criteria would not be blocked by a person who does not meet the functional requirements listed in the

NPRM. The RAA requests clarification of the definition of an "exit row," since in some aircraft there is no clearly discernible aisleway. This would cause confusion as to what is considered a floor-level exit row.

The NFB, in the past, and other commenters have suggested that the rule could be made less restrictive by restricting only the seats next to the exit doors. The ATA suggestion also would result in a less restrictive rule and was given very careful consideration by the FAA in view of this. Many persons with disabilities voiced their displeasure during the ACAA regulatory negotiations, however, with air carrier instructions to remain seated until they could be assisted. The FAA believes it would not be realistic to consider that persons with disabilities would not attempt to unbuckle their seat belts or attempt to move toward the exit immediately. This could occur at the critical point of initiating sufficient momentum for the evacuation flow.

Further, seating persons with disabilities in those rows would result in some time loss, as other passengers or crewmembers made their way to the exits. These functions involve a cooperative group effort. Persons in an over-the-wing exit row, for example, may have to move out of the way rapidly while the person in the window seat removes the exit and places it upon the seat or maneuvers it over the back of the seat.

In cases where the exit is not immediately adjacent to the row, an accident requiring an emergency evacuation might create obstacles that would impede getting to the exit to begin the evacuation process. An able-bodied person would be in a better position to cope with a disabled flight attendant strapped in a rearward-facing bulkhead seat immediately adjacent to the exit.

The initial evacuees should be able to hold down the slide and to assist people in getting away from the slide. If the one non-handicapped person in the row is incapacitated, by default the others in that row will become those who must not only open the exit but perform the balance of the team functions.

The FAA recognizes the dilemma of the RAA in designating "exit rows," since many smaller aircraft have no seats adjacent to floor-level exit doors. In view of this, the definition of an "exit row" has been modified to include the closest row or any seat which has direct access to an exit or has no obstruction between it and the exit.

Whether the Functions and Criteria and a Statement About Passengers' Performing Exit Row Duties Should Be Included in Passenger Information Cards at Seats Affected by the Rule and in Passenger Briefings

The ATA believes that excessive information on cards (the cards required by §§ 121.571 and 135.117 of the FAR to supplement the oral passenger briefings also required by these sections) and lengthy briefings will be ignored by passengers and will create anxiety. ATA recommends that, instead, all passengers should be advised by a simple notice on the existing information cards, or as part of the standard safety briefing, that they may be called upon to open an exit or otherwise assist the crew in the event of an emergency.

The RAA comments that in 1985, the NTSB completed a study on briefing cards. The study concluded that the use of illustrations and minimal verbiage resulted in more passengers reading the cards. The RAA suggests that a special briefing card be offered to exit row passengers and that other cards not be changed.

As previously discussed, other groups such as the ACB opt for more information, rather than less, and want it in Braille, large print, and on tapes. Several persons suggest that the locations and types of mechanisms may pose problems for persons other than those with disabilities. They recommend more detailed instructions on both the passenger evacuation cards and near the emergency exits for everyone's benefit.

The FAA concurs that briefing cards must be kept simple and succinct to encourage passengers to read them. The FAA believes, however, that safety will be enhanced if passengers are given additional information on emergency evacuation functions. While these functions may fall only to persons seated in exit rows, it is conceivable that incapacitation of one or more exit row occupants may require assistance from other passengers. Further, if all passengers are aware of the procedures, it may elicit greater cooperation on their part, such as not crowding the exit row occupants while the exit is being opened, moving back to allow stowage of an over-the-wing exit door, and even readily accommodating a transfer of seating before takeoff.

In view of this, the FAA final rule requires that all briefing cards for the general public contain the basic illustrations regarding emergency

evacuations already found on briefing cards, concerning the following:

- (1) The location and types of exits;
- (2) The opening mechanisms;
- (3) The use of the opening mechanisms;
- (4) The activation and/or use of slides;
- (5) Use of the wings for emergency evacuations;
- (6) Movement away from the airplane after reaching the ground;
- (7) Emergency evacuations over water ("ditching");
- (8) Use of oxygen masks; and
- (9) Any other information/illustration needed to impart information on emergency evacuations of the particular airplane involved or new developments in evacuation techniques and procedures.

In addition, this rule requires that the safety functions stated in §§ 121.585 and 135.127 of the FAR be listed on all briefing cards. Some, but not all, of these functions already are illustrated on the cards now used by certificate holders. The listing will serve to reinforce the graphic information and also will draw attention to functions that are not illustrated easily.

Finally, this rule requires that each certificate holder shall include on passenger information cards, at all seats affected by these sections, presented in the languages used by the certificate holder for passenger information cards, the criteria set forth in paragraph (b) of §§ 121.585 and 135.127 of the FAR, to enable passengers to self-identify if they are or believe they are incapable of performing the functions. Multilingual cards may be necessary to enable passengers to self-identify. Exit row occupants, however, must be capable of understanding the crew's oral commands. Proficiency in the English language is not necessary, but exit row occupants should be able to understand simple instructions in English. This requirement must be made clear on the cards.

As previously discussed, the matter of providing cards in Braille or large print for passengers seated in non-exit rows is outside the scope of this rulemaking. The FAA encourages certificate holders to do so, however, and to design the cards in a manner that will ensure maximum independence for blind passengers who desire this during an emergency evacuation.

Whether a Less Stringent Standard for Exit Row Seating Should Be Adopted for Regional Carriers Due to Smaller Cabin Size

The RAA strongly opposes a less stringent standard, commenting that the

absence or small number of flight attendants on aircraft with limited seating makes it even more imperative that able persons be seated near the exits to assist.

It is apparent from the RAA's reference to flight attendants that the RAA's comment concerns commuter flights. The FAA concurs with the RAA in regard to commuters, and the rule sets the same standard for all U.S. air carriers and commercial operators (certificate holders) of this type.

The FAA has decided, however, to exempt the on-demand operations of air taxis with nine or fewer passenger seats from this rule. Persons with disabilities, to whom other types of commercial flights are unavailable, should have access to air travel. Since these chartered flights may carry only the handicapped person, or, at most, friends, family, or assistants, instead of large numbers of passengers, the FAA has determined that exit row seating restrictions should not apply.

Whether Written Procedures Should Be Approved by the Local Principal Operations Inspector Rather Than by the Director of the Flight Standards Service

The RAA states that the requirement for final approval in FAA Headquarters could cause situations where a carrier's procedures will be unenforceable until the approval is granted, with exit row restrictions not implemented for several months.

The FAA believes that the RAA's comment is premised on the belief that the FAA expects complicated procedures regarding the identification of exit row passengers. This is not the case. As already discussed, the FAA believes that the functions and criteria stated in the rule are clear and sufficiently self-explanatory to be adopted by certificate holders and to serve as the procedures for the selection of exit row passengers. The balance of the procedures, which will relate to the personnel making the selections, the filing of complaints, and other administrative actions, should be fairly simple. The final product, therefore, should not require prolonged review. The main thrust of that review will be to determine that the certificate holders have not added criteria and functions that are not in accord with the rule or which go beyond what is required for safety.

During the ACAA regulatory negotiations, organizations representing persons with disabilities strongly recommended that any procedures developed relative to their constituents be reviewed by high-level management

to ensure that the nondiscriminatory purposes of the ACAA be carried out. The FAA recognizes that this is a valid request in regard to the exit row seating rule, as well. In the concern for air safety, it is sometimes difficult to keep other important concerns in mind, both within the FAA and among the certificate holders. Approval by the Director of the FAA's Flight Standards Service will highlight the necessity of accomplishing the aim of safety without detriment to the goal of nondiscrimination.

Discussion of Emergency Evacuations—Exit Row Passenger Functions

In the NPRM, the FAA discussed the types of functions which may be necessary for exit row occupants to perform. While these are contained in the rule, the FAA believes it is appropriate to repeat the discussion material found in the NPRM in order to provide certificate holders and other interested parties with a single document that encompasses all the FAA thinking on this issue.

Note: Some portions of the following discussion have been modified to reflect the impact of comments or rearrangement of the information in response to a comment.

From a safety standpoint, a person who sits in an exit row or, in cases where there is no aisle, in any seat that has direct access to an exit must be able to accomplish a number of tasks under a variety of conditions without assistance. These include:

Locating the Exit

In order to be able to locate the exit in an emergency, the passenger in an exit row must be able to comprehend and identify that he or she is in such a row. The primary means of such comprehension and identification is seeing the exit, as well as its placards, and recognizing their significance. Although a person familiar with one or more aircraft seating configurations might be able to recognize that he or she is in an exit row by counting seat rows, that method is not reliable. Seating configurations vary from certificate holder to certificate holder and even from aircraft to aircraft in the same fleet. Further, the ability to remember seating configurations is not something that can be discerned by ordinary means of observation. It would not be practical to expect that a certificate holder assigning seats could identify a person with that ability, or be sure that one who claims such ability actually has it. It has been suggested that special briefings could be given to blind persons to inform them of their exit row

occupancy and to familiarize them with the door or window opening mechanism. During an actual evacuation, however, there is no guarantee that the nearest exit will be operable or should be used. The FAA's study of three major accidents (Report AM-70-16) includes data on this point. In the Denver accident, the left window exits became unusable due to fire on the wing. Debris blocked the main, rear boarding door. Fire destroyed the slide at the aft galley door after about 20 persons used it. Other passengers then had to jump—a situation with special hazards for blind and other handicapped passengers. In the Salt Lake City accident, fire on the left side of the fuselage drove persons away from the window exits there to the right side instead. In the Rome crash, fire spread to the left side of the aircraft, hampering the escape of passengers from that side. Further, the forward galley door was not used due to fire. "Survival in Emergency Escape from Passenger Aircraft," at 11, 12, 22, 31, and 33. Clearly all passengers benefit if the persons seated in an exit row can determine quickly whether its door or window exit remains operable or conditions outside allow its use.

Recognizing, Comprehending the Instructions for Use, and Operating the Exit Opening Mechanism

These tasks call for the ability to locate and identify the mechanism and the range and direction of motion required to use the mechanism effectively. They require the ability to perceive and understand the normally available directions pertaining to use of the mechanism. Ascertaining the complete directions for opening an exit often requires observation of both the exit itself, which may have on it a graphic illustration regarding the direction in which the mechanism must be moved to open the exit, and a passenger information card and/or video tape presentation. These contain further graphic illustrations of the complete set of actions required for use of the opening mechanism.

It should be emphasized that these presentations rely on graphic displays as well as on words. Reliable oral interpretation of the graphics for the benefit of a blind person by another passenger depends on the ability of the person attempting to convey the information. There would be no practical way to test this in advance. Similarly, relying on another passenger to translate instructions would be impractical in the case of persons who do not speak the same language. In addition, other passengers have no legal duty to convey such information to a

handicapped, non-English speaking, or illiterate passenger, and it would not be feasible to require them to demonstrate such an ability.

Further, many passenger information cards focus on main handles of the exit, on the assumption that passengers will be able to see or read further instructions or find adjunct mechanisms. To illustrate, during the FAA's visit to the training facility for flight attendants, the following were noted:

An overwing window exit generally will have a handle marked "Pull" or "Pull Down." but no placard or information concerning the other hand grip that must be located and grasped at the same time as the movable handle. Both must be grasped to enable the person opening the exit window to move it out of the way to prevent blockage of the exit.

Certain operating mechanisms are not integral parts of the exit doors but may be located adjacent to the exit door. Still others have covers, labeled with words indicating they should be removed to allow use of the mechanism in an emergency.

On power-assisted exit doors, in addition to the mechanism for opening it, there often is an arming device located near the opening handle. If activated by mistake, it will prevent the door from opening. Sighted persons can differentiate this handle from the door mechanisms, which are fully labeled. No instructions are provided to passengers in connection with the arming devices because they are intended for crew use only. Yet, their proximity to the opening handles presents a chance that a person, who cannot discern the difference between the two mechanisms, inadvertently could render the exit useless. Once this occurs, it is not reversible without the assistance of trained mechanics.

Assessing Conditions

This requirement includes both sensory and cognitive abilities. The primary sense involved is sight. Cognitive abilities include the capacity to judge danger. Young children, for example, may lack the ability to make the required judgments. Opening an exit in an emergency may increase the danger to which all passengers are exposed, if doing so allows an external fire or even its smoke to enter the cabin. Danger to passengers also can be increased if they are encouraged to use an exit that might open onto dangerous conditions, such as jagged metal, ice, water, unexpected distance to the ground or some other condition that might be avoided by using another exit.

It has been suggested that a blind person could be advised orally of a sighted person's assessment without derogating the safety of others. The FAA does not agree that this offers a practical alternative to excluding blind people from exit rows. Emergencies are more likely than not to foster confusion. To add a requirement for one person to assess conditions and relay that assessment to another before an emergency exit can be opened, solely to allow the latter to sit in an exit row, would be to increase risk unnecessarily.

It also has been suggested that a blind person can assess the danger presented by external fire through the sense of touch. The argument is that a blind person could sense an external fire by feeling the inside of the door. While that may be true in some cases, this argument is not valid in the case of fire that is not yet near enough to the airplane or of sufficient intensity to cause the inside of the door to be warm enough to warn against opening the door. Large, modern aircraft are extremely well-insulated. At 30,000 feet, a passenger cannot feel the intense cold (as low as -70 degrees centigrade) by placing a hand on the fuselage.

In addition, this assertion does not deal with the dangers presented by smoke, jagged metal, water, and other hazards such as those mentioned above. Certificate holders train crewmembers to "feel" the door while looking out the window to assess conditions, but this action is designed to cause a pause for assessment of viewed conditions before reaching for the exit operating mechanism. It is not considered an independent means of assessment.

In some doors, prism windows now allow visual assessment along the full length of the aircraft all the way to the ground to determine whether fire or obstacles are present. Clearly, blind persons cannot make such an assessment.

Automatic slides fail from time to time. When this happens, the person nearest the exit must recognize that manual deployment will be necessary, find the manual deployment handle, and operate it. If this fails, it may be necessary to find and communicate the need for a totally different means of escape. Sighting flashing door lights, following floor lights, or seeing the hand signals of others may be necessary for effective escape leadership. While this leadership may fall to a passenger outside the exit row, it will do so more rapidly if those in the exit row can quickly and accurately assess the state of that exit.

Finally, it has been suggested that blind persons are better able to function in the dark and actually may be more useful than sighted persons in an emergency evacuation. As previously discussed, it is not certain, however, that in any given crash scenario darkness will be so complete as to render sight useless.

Assessing Whether a Slide Can Be Used Safely

This includes judging whether the slide has extended, whether it terminates in a safe area, whether the physical integrity of the slide is adequate for its use, and whether passengers are accumulating on the slide in such numbers as to threaten its integrity.

Stowing or Securing the Exit Door

The action needed to stow or secure the exit door expeditiously and safely varies widely. On power-assisted doors, no separate action beyond turning the handle may be required. Removal of a window exit, however, will require maneuvering a 40- to 80-pound, approximately 2- x 3-foot window over the adjacent seat back into the row behind the exit or onto seats in the balance of the exit row. This requires strength, sight to ensure that others are out of harm's way of the detached window, and speaking ability to issue the appropriate orders or warnings to passengers in the way.

In stowing doors that swing outward, such as those on some Boeing 727 models, care must be taken to avoid falling out of the airplane. A handle near the door is provided for just this purpose, and its purpose is obvious to a sighted person attempting to open the door. In the passenger information cards of one major certificate holder, this handle is visible in pictures of the door, but its use is not discussed. This makes it unlikely that it would be revealed to a blind person being apprised of the exit operating instructions by a sighted companion. Such communication was suggested by at least one witness appearing before the advisory committee as being all a blind person would need to function as effectively as a sighted person in regard to opening an emergency exit safely and expeditiously. A similar argument could be made with respect to passengers who cannot understand the language in which crew commands are given. It is the FAA's position that such instruction or explanation by another person constitutes an unnecessary delay factor and simply points to the need not to place persons needing such explanation in exit rows.

Safely Using the Exit

This includes passing expeditiously through the exit and assessing, selecting, and following a safe path away from the exit. A person leading the way out of an exit in an emergency should have the agility to exit quickly, the strength to assist other passengers, and the ability to avoid hazards such as water, jagged metal, unexpected heights (such as might be caused by failed or damaged slides), and rescue vehicles and associated equipment.

Following Oral Directions or Hand Signals From a Crewmember

During an anticipated evacuation, survival may depend on the ability of persons in exit rows to see, hear, and understand the instructions issued by crewmembers. As discussed previously herein, exits may become inoperable or unavailable due to fire, structural damage, or damage to slides. In some situations, opening an exit may exacerbate the danger by allowing flames or smoke to rush into the cabin. The potential for such danger is increased if persons in those exit rows cannot see it or hear and understand shouted directions and warnings from crewmembers.

Other Options for Exit Row Seating

The FAA invited comments on other options previously considered by the FAA as well as any other options the agency may not have considered. As discussed below, the FAA did not find alternative exit row seating plans persuasive.

The first option is the approach originally proposed in Notice 74.25 in 1974. Basically, this would prohibit handicapped passengers from sitting in all exit row seats except the seat farthest from the exit. The FAA did not select this approach for the following reasons: (1) in the event the remaining seats in the exit row were not assigned, the sole passenger in that row could be a handicapped person; (2) similarly, if the other passengers became incapacitated, the sole passenger in that row could be a handicapped person; and (3) even if the other passengers were able-bodied, a handicapped person in the exit row would be more likely than an able-bodied person to cause some delay in establishing the evacuation flow, as demonstrated in the CAMI study.

The second option was suggested by a representative of one of the groups of persons with disabilities. This calls for only the seat adjacent to a window exit to be reserved for persons capable of performing the necessary functions.

Again, this approach presupposes the survival or undiminished capacity of this able-bodied person during an accident or emergency landing. Further, it would allow handicapped persons to be seated in a row of seats adjacent to a floor-level exit row. This approach is not viable, given the available data on evacuation flow.

The FAA's objective in this rule is to maximize the likelihood for survival. In order to do so, it is necessary that only persons capable of performing the necessary functions be seated in exit rows, to enhance the ability of all passengers to evacuate safely. As already discussed, persons in exit rows may have to work as a team. In the window exit rows, for example, the task of removing the window hatch ordinarily would fall to the person next to the window hatch. Window hatches weigh 45 to 80 pounds and must be maneuvered either over the back of the seat to the next row or placed on the seat next to the window exit seat. In either case, nearby passengers must be able to recognize the need for moving out of the way rapidly and have the capacity to do so. In addition, everyone in the row must be capable of performing the necessary functions because the seat adjacent to the emergency exit may be unoccupied.

The FAA reiterates that initial evacuees also may have to work as a team on the ground. In a high wind, it may be necessary for several persons to hold down a slide and to catch passengers (especially disabled ones) and assist them away from the slide.

Another concern that was expressed relates, in the commenters' view, to the questionable need for exit row seating restrictions, in light of the allegedly negligible probability that a crash would occur with a handicapped person sitting in an exit row. The suggestion is that this limited chance should be balanced against the inconvenience to persons who are removed from exit row seats assigned by mistake or inadvertence.

This comment overlooks the purpose of crashworthiness rules such as proposed herein. Crashworthiness rules are designed to deal with the post-crash environment by creating the greatest possible chance for survivors to escape the aircraft. Another example of a crashworthiness measure is the use of seatbelts. It is well-established that a fastened seatbelt may be the difference between saving and losing a life.

Although seldom needed, they always are required. As discussed herein in conjunction with the matters of attendants and limitations on numbers of passengers with disabilities, the FAA

recognizes that the crashworthiness standard does not stand alone. It is subject to technical limitations and competing social aims. The social aims, however, must rise above the level of mere inconvenience.

The FAA's goal in this matter is safety for the maximum number of people possible. It is clear from the studies that any delay in beginning the flow of persons through an exit works to the detriment of all those trying to use the exit. The FAA studies show that persons without handicaps are less likely to cause such delays than are persons with handicaps. The studies also show that a handicapped person, who might cause a substantial delay at the head of an exit queue, can be accommodated once the queue is established and moving, without detriment to the exit flow rate or to his or her own escape through an exit.

The FAA sought additional studies or data concerning the issues raised by this rulemaking. The FAA was able to obtain further information on an evacuation exercise the National Federation of the Blind conducted in conjunction with World Airways in 1985. No other experiments, exercises, or studies came to light.

Requirements for Compliance With the Rule

In order to comply with the regulations, certificate holders must develop procedures and revise their pertinent handbooks, for review and approval by the principal operations inspectors (POI's) at the FAA Flight Standards District Offices that are charged with the overall inspection of their operations. A carrier's procedures will not become effective until final approval is granted by the Director, Flight Standards Service, at FAA Headquarters.

To ensure that the procedures of all certificate holders are consistent with the regulations, explicit criteria for the selection of exit row occupants have been included in the rule. To be approved, a certificate holder's procedures must include the criteria and address all of the functions enumerated in the regulations as ones that may fall to a person in an exit row.

The procedures also must include provisions by each certificate holder to make available at all loading gates and counters at each airport it serves, and at each seat affected by the regulations, the information advising the occupying passenger that he or she may be called upon to perform the enumerated functions. Passenger information cards for other rows and seats also shall

enumerate the emergency evacuation functions.

Certificate holders also must include provisions verify the appropriateness of exit row seating assignments prior to takeoff and to brief passengers on the need to identify themselves and to move out of the exit row if they cannot meet the criteria or do not wish to be responsible for performing the required functions. For example, a procedure might consist of a flight attendant asking questions to ensure that a person seated in an exit row can hear and understand English. The flight attendant would then instruct the passenger briefly as to the responsibilities of sitting in that seat, and the person would indicate whether he or she feels capable of performing those functions and responding to oral commands in English from the crew.

Approval will be based solely upon the safety aspects of the certificate holders' procedures. The FAA's approval of procedures will not insulate the certificate holder, therefore, from challenges based upon discrimination or other matters not related to safety.

As with any changes to part 121 or 135 of the FAR, certificate holders' procedures must provide for training, as already required by FAA regulations in 14 CFR part 121, specifically, §§ 121.415, "Crewmember and dispatcher training requirements"; 121.417, "Crewmember emergency training"; 121.418, "Differences training: Crewmembers and dispatchers"; 121.421, "Flight attendants: Initial and transition ground training"; 121.417, "Recurrent training"; 135.295, "Initial and recurrent flight attendant crewmember testing requirements"; and 135.319, "Crewmember training requirements." Accordingly, §§ 121.585 and 135.127 of the FAR contain no separate requirement for training.

In developing the foregoing proposed compliance procedures, the FAA considered eliminating the requirement for submission of the procedures to the FAA for approval. The rationale presented for nonsubmission includes:

(1) The rule is very explicit and could be implemented with minimal written procedures;

(2) Passengers with complaints based on either safety or discrimination have adequate recourse to the FAA or the Office of the Secretary of Transportation, whether or not written procedures have been submitted for approval; and

(3) Since the rule will be implemented with minimal written procedures, there will be little to review and approve, and the cost of submission will not be warranted.

On the other hand, the FAA considered the following factors:

(1) Representatives of handicapped groups have expressed strong disapproval of the fact that the procedures developed by certificate holders under § 121.585 of the FAR, "Authority to refuse transportation," were submitted solely for review and not for approval by the FAA. A compliance mechanism that eliminates even the submission of the procedures may be considered a step in the wrong direction, regardless of the rule's level of detail;

(2) If the procedures are not submitted for approval, the FAA will have to rely solely on complaints to determine the compliance of the certificate holders;

(3) Without ready access to the procedures, the FAA will be in a less informed position, when attempting to resolve a problem informally; and

(4) There is no guarantee that each certificate holder will interpret the rule in exactly the same way.

The requirements are applicable to the operations of all part 135 air taxi operators, except the operations of on-demand air taxis with nine or fewer passenger seats, and commercial operators, as well as to part 121 domestic, flag, and supplemental air carriers and commercial operators of large aircraft. The FAA considered limiting the applicability of § 135.129 of the FAR, however, to aircraft having a passenger seating configuration of more than 19 passengers, but was persuaded by the comments of the RAA that this would not be advisable.

Compliance Dates

As previously discussed herein, OST has proposed a rule to implement the ACAA, to which the FAA's exit row rule relates. It is the intention of the Department that both rules, if adopted, become effective simultaneously to the extent possible, to avoid a hiatus between the existing procedures of certificate holders, concerning exit row seating, and the requirements established through amending parts 121 and 135 of the FAR.

While OST recognizes that the existing procedures of certificate holders may have shortcomings, at present they constitute the only available mechanism for monitoring emergency exit row seating from the standpoint of safety. A hiatus would not be in the best interests of safety, and the present procedures must be used until §§ 121.585 and 135.129 of the FAR become effective.

The present air carrier procedures also must remain in effect until the certificate holders complete any training

that may be necessary for crewmembers and other personnel; make appropriate revisions to their manuals; and complete production of new passenger information cards for occupants of aisle seats as well as other informational material that may be necessary under the rule. The FAA believes that these actions can be accomplished within 180 days of the effective date of this rule, and the compliance date has been set accordingly.

Regulatory Evaluation

Economic Impact Summary

This section summarizes a regulatory evaluation prepared by the FAA that provides detailed estimates of the economic consequences of this rule. The full evaluation quantifies, to the extent practicable, estimated costs to the private sector; consumers; and Federal, State, and local governments, as well as anticipated benefits and impacts.

Executive Order 12291 dated February 17, 1981, directs Federal agencies to promulgate new regulations or modify existing regulations only if potential benefits to society for each regulatory change outweigh potential costs. The order also requires the preparation of a Regulatory Impact Analysis of all "major" proposals except those responding to emergency situations or other narrowly defined exigencies. A "major" proposal is one that is likely to result in an annual effect on the economy of \$100 million or more, a major increase in consumer costs, or a significant adverse effect on competition, or one that is highly controversial.

The FAA has determined that this rule is not "major" as defined in the Executive Order; therefore, a regulatory analysis, which includes the identification and evaluation of cost-reducing alternatives to the rule, has not been performed. Instead, the FAA has prepared a regulatory evaluation of just this rule without identifying alternatives. In addition to a summary of the regulatory evaluation, this section also contains a regulatory flexibility determination required by the 1980 Regulatory Flexibility Act (Pub. L. 96-354) and an international trade impact assessment. If more detailed economic information is desired than is contained in this summary, the reader is referred to the full regulatory evaluation contained in the docket.

Analysis of Benefits and Costs

The FAA has estimated the costs and benefits associated with this proposed rule by analyzing it section by section.

This rule replaces the industry's varying policies and inconstant practices with a uniform and uniformly applicable rule. The rule provides a comprehensive set of procedures, based on explicit criteria, that can be carried out with only minimal training cost. Changes to the certificate holders' operations manuals, appropriate parts of the crewmembers' manuals, and appropriate segments of airlines' training programs are made periodically as a matter of routine. The provisions of this rule will be incorporated routinely into those manuals and training programs at little additional cost. Factors such as an accelerated training schedule, if used, could result, however, in some additional training costs. Presently, the FAA does not anticipate this will be necessary.

The requirement for passengers to comply with instructions, or be subject to denial of transportation at the discretion of the certificate holder, will impose no cost because such a requirement is presently industry practice reflecting section 902(j) of the Federal Aviation Act of 1958 (49 U.S.C. 1472(j)).

The requirement that certificate holders make available, at each seat affected, information advising the occupant of the functions he or she might be called upon to perform in an emergency and the requirement that passenger information cards be presented in multiple languages will cost, at maximum, approximately \$220,000 for all potentially affected seats under the applicability in both part 121 and part 135 of the FAR. The maximum approximate cost per aircraft will range from \$20 to \$60 for part 135 commuters with more than 19 seats and airplanes operating under part 121 of the FAR. The approximate cost per aircraft for part 135 commuters with 19 or fewer seats and for large air taxis (10-19 seats) will be \$5.

The cost of making copies of the criteria available at airports will be negligible. The incremental cost of printing the procedures and making them available at each airport will range from less than \$100 to probably no more than \$1,000 per year for each part 121 operator and part 135 commuter operator, depending on the number of airports each operator serves.

The requirement for verification of appropriately occupied affected seats prior to closing all passenger entry doors preparatory to taxi or pushback will be accomplished during the currently-required baggage stowage check with no delay of flight or incremental cost.

The required inclusions in the passenger briefings are minimal expansions and will be accomplished at no cost.

Accommodating a passenger being relocated from an exit row seat when non-exit row seats are fully booked will involve no cost. That person will not be denied transportation, nor will any cost result from moving another passenger, who is willing and able to assume the evacuation functions that may be required, into an exit row seat. (In a rare case, it may be impossible to relocate a handicapped passenger due to his or her particular handicap and the particular configuration of an aircraft; e.g., the only seat on the aircraft that can accommodate a leg cast will be in an exit row.)

The certificate holder's submission of procedures to the FAA will involve a negligible administrative cost for the transaction.

Since it is highly unlikely that a passenger will be denied transportation, there will be no, or, at the most, a negligible loss of revenue.

The potential benefits that will be derived from this rule are substantial. The FAA estimates the benefits based on a broad body of information which is discussed in detail elsewhere in this rule. Of particular import is the information contained in a study completed in October 1970 by the FAA's Office of Aviation Medicine, entitled "Survival in Emergency Escape from Passenger Aircraft" (Report No. AM-70-16). The study concluded that in aircraft accidents in which decelerative forces do not result in massive cabin destruction and overwhelming trauma to passengers, survival is determined largely by the ability of the uninjured passenger to make his or her way from a seat to an exit within time limits imposed by the thermotoxic environment. Seconds can mean the difference between life and death in the aftermath of a crash inasmuch as evacuation might be terminated abruptly by an explosion at any point.

The reason for this rulemaking is a concern for potential derogation of safety. Any effort to calculate monetary values for expected saved lives would be speculative, since there is no historical base from which to derive valid estimates. Nevertheless, the FAA estimates that the rules will account for a benefit of substantial numbers of lives saved as contrasted with potential loss of life in the absence of such regulations.

The prevention of only one life lost in an accident will alone more than pay for the cost of this rule. The data clearly indicate that the rule will be justified on

a benefit-to-cost basis. Each affected section in part 121 and part 135 of the FAR is identified and explained in the detailed section-by-section analysis contained in the full Regulatory Evaluation placed in the docket.

Regulatory Flexibility Determination

Since there will be only negligible cost associated with this rule for an operator, the FAA has determined that the rule will not have a significant economic impact, positive or negative, on a substantial number of small entities.

Trade Impact Statement

Since this rule will affect only part 121 and part 135 certificate holders (except operations of on-demand air taxis with nine or fewer passenger seats) regarding seating of passengers in exit rows, the FAA has determined that the regulation will not have an impact on international trade.

Paperwork Reduction Act Clearance

This rule imposes information collection requirements (i.e., procedures to be submitted to the FAA, revision of passenger information cards in exit rows, and dissemination of procedures at airports served by the air carriers). A Paperwork Reduction Act clearance request has been submitted to the Office of Management and Budget. The information collection requirement does not go into effect until OMB clearance and the assignment of an OMB control number. We will publish a **Federal Register** notice when the OMB control number is received.

Federalism Implications

These regulations will not have substantial direct effects 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. Thus, in accordance with Executive Order 12612, it is determined that this regulation does not have federalism implications warranting the preparation of a Federalism Assessment.

Conclusion

For the reasons discussed in the preamble and based on the findings in the Regulatory Flexibility Determination and the International Trade Impact Analysis, the FAA has determined that this regulation is not major under Executive Order 12291 and certifies that this rule will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act. This rule is considered

significant under Department of Transportation Regulatory Policies and Procedures (44 FR 11034; February 26, 1979). A regulatory evaluation, including a Regulatory Flexibility Determination and Trade Impact Analysis, has been placed in the regulatory docket. A copy may be obtained by contacting the person identified under "**FOR FURTHER INFORMATION CONTACT.**"

List of Subjects:

14 CFR Part 121

Air carriers, Air safety, Air transportation, Aircraft, Airplanes, Handicapped, Safety, Transportation.

14 CFR Part 135

Air safety, Air carriers, Air transportation, Aircraft, Airplanes, Aviation safety, Handicapped, Safety, Transportation.

The Rule

Accordingly, the FAA amends parts 121 and 135 of the Federal Aviation Regulations (14 CFR parts 121 and 135) as follows:

PART 121—CERTIFICATION AND OPERATIONS: DOMESTIC, FLAG, AND SUPPLEMENTAL AIR CARRIERS AND COMMERCIAL OPERATORS OF LARGE AIRCRAFT

1. The authority citation for 14 CFR part 121 continues to read as follows:

Authority: 49 U.S.C. 1354(a), 1355, 1356, 1357, 1401, 1421-1430, 1472, 1485, and 1502; 49 U.S.C. 106(g) (Revised, Pub. L. 97-449, January 12, 1983).

2. New § 121.585 is added to read as follows:

§ 121.585 Exit row seating.

(a) Each certificate holder shall determine, to the extent necessary to perform the applicable functions of paragraph (d) of this section, the suitability of each person it permits to occupy a seat in a row of seats that provides the most direct access to an exit (including all of the seats in the row from the fuselage to the first aisle inboard of the exit or, in cases where there is no aisle, in the closest row or in any seat that has direct access to an exit, hereafter referred to as exit row seats), in accordance with this section. These determinations shall be made in a non-discriminatory manner consistent with the requirements of this section, by persons designated in the certificate holder's required operations manual.

(b) No certificate holder may seat a person in a seat affected by this section if the certificate holder determines that it is likely that the person would be unable to perform one or more of the

applicable functions listed in paragraph (d) of this section because—

(1) The person lacks sufficient mobility, strength, or dexterity in both arms and hands, and both legs:

(i) To reach upward, sideways, and downward to the location of emergency exit and exit-slide operating mechanisms;

(ii) To grasp and push, pull, turn, or otherwise manipulate those mechanisms;

(iii) To push, shove, pull, or otherwise open emergency exits;

(iv) To lift out, hold, deposit on nearby seats, or maneuver over the seatbacks to the next row objects the size and weight of over-wing window exit doors;

(v) To remove obstructions similar in size and weight to over-wing exit doors;

(vi) To reach the emergency exit expeditiously;

(vii) To maintain balance while removing obstructions;

(viii) To exit expeditiously;

(ix) To stabilize an escape slide after deployment; or

(x) To assist others in getting off an escape slide;

(2) The person is less than 15 years of age or lacks the capacity to perform one or more of the applicable functions listed in paragraph (d) of this section without the assistance of an adult companion, parent, or other relative;

(3) The person lacks the ability to read and understand instructions related to emergency evacuation provided by the certificate holder in printed, handwritten, or graphic form or the ability to understand oral crew commands in the English language;

(4) The person lacks sufficient visual capacity to perform one or more of the applicable functions in paragraph (d) of this section without the assistance of visual aids beyond contact lenses or eyeglasses;

(5) The person lacks sufficient aural capacity to hear and understand instructions shouted by flight attendants, without assistance beyond a hearing aid;

(6) The person lacks the ability adequately to impart information orally to other passengers; or,

(7) The person has:

(i) A condition or responsibilities, such as caring for small children, that might prevent the person from performing one or more of the applicable functions listed in paragraph (d) of this section; or

(ii) A condition that might cause the person harm if he or she performs one or more of the applicable functions listed in paragraph (d) of this section.

(c) Each passenger shall comply with instructions given by a crewmember or other authorized employee of the certificate holder implementing exit row seating restrictions established in accordance with this section.

(d) Each certificate holder shall include on passenger information cards, presented in the languages used by the certificate holder for passenger information cards, at each seat affected by this section, information that, in the event of an emergency in which a crewmember is not available to assist, a passenger occupying an exit row seat may use if called upon to perform the following functions:

- (1) Locate the emergency exit;
- (2) Recognize the emergency exit opening mechanism;
- (3) Comprehend the instructions for operating the emergency exit;
- (4) Operate the emergency exit;
- (5) Assess whether opening the emergency exit will increase the hazards to which passengers may be exposed;
- (6) Follow oral directions and hand signals given by a crewmember;
- (7) Stow or secure the emergency exit door so that it will not impede use of the exit;
- (8) Assess the condition of an escape slide, activate the slide, and stabilize the slide after deployment to assist others in getting off the slide;
- (9) Pass expeditiously through the emergency exit; and
- (10) Assess, select, and follow a safe path away from the emergency exit.

(e) Each certificate holder shall include on passenger information cards, presented in the languages used by the certificate holder for passenger information cards, at all seats affected by this section, the selection criteria set forth in paragraph (b) of this section, and a request that a passenger identify himself or herself to allow reseating if he or she:

- (1) Cannot meet the selection criteria set forth in paragraph (b) of this section;
- (2) Has a nondiscernible condition that will prevent him or her from performing the applicable functions listed in paragraph (d) of this section;
- (3) May suffer bodily harm as the result of performing one or more of those functions; or,
- (4) Does not wish to perform those functions.

A certificate holder shall not require the passenger to disclose his or her reason for needing reseating.

(f) Each certificate holder shall make available for inspection by the public at all passenger loading gates and ticket counters at each airport where it conducts passenger operations, written,

procedures established for making determinations in regard to exit row seating.

(g) No certificate holder shall allow all passenger entry doors to be closed in preparation for taxi or pushback unless at least one required crewmember has verified that no exit row seat is occupied by a person the crewmember determines is likely to be unable to perform the applicable functions listed in paragraph (d) of this section.

(h) Each certificate holder shall include in its passenger briefings a reference to the passenger information cards, required by paragraphs (d) and (e), the selection criteria set forth in paragraph (b), and the functions to be performed, set forth in paragraph (d) of this section.

(i) Each certificate holder shall include in its passenger briefings a request that a passenger identify himself or herself to allow reseating if he or she—

- (1) Cannot meet the selection criteria set forth in paragraph (b) of this section;
- (2) Has a nondiscernible condition that will prevent him or her from performing the applicable functions listed in paragraph (d) of this section;
- (3) May suffer bodily harm as the result of performing one or more of those functions listed in paragraph (d) of this section; or,
- (4) Does not wish to perform those functions listed in paragraph (d) of this section.

A certificate holder shall not require the passenger to disclose his or her reason for needing reseating.

(j) Each certificate holder shall honor expeditiously a passenger's request to be relocated to a non-exit row seat.

(k) In the event a certificate holder determines in accordance with this section that it is likely that a passenger assigned to an exit row seat would be unable to perform the functions listed in paragraph (d) of this section, or a passenger requests a non-exit row seat, the certificate holder shall relocate the passenger to a non-exit row seat.

(l) In the event of full booking in the non-exit row seats, the certificate holder shall move a passenger, if necessary to accommodate a passenger being relocated from an exit row seat, who is willing and able to assume the evacuation functions that may be required, to an exit row seat.

(m) A certificate holder may deny transportation to any passenger under this section only because—

- (1) The passenger refuses to comply with instructions given by a crewmember or other authorized employee of the certificate holder, implementing exit row seating

restrictions established in accordance with this section, or

(2) the only seat that will physically accommodate the person's handicap is an exit row seat.

(n) In order to comply with this section certificate holders shall—

- (1) Establish procedures that address:
 - (i) The criteria listed in paragraph (b) of this section;
 - (ii) The functions listed in paragraph (d) of this section;
 - (iii) The requirements for airport information, passenger information cards, crewmember verification of appropriate seating in exit rows, passenger briefings, seat assignments, and denial of transportation as set forth in this section;
 - (iv) How to resolve disputes arising from implementation of this section, including identification of the certificate holder employee on the airport to whom complaints should be addressed for resolution; and,
- (2) Submit their procedures for preliminary review and approval to the principal operations inspectors assigned to them at the FAA Flight Standards District Offices that are charged with the overall inspection of their operations.

(o) Certificate holders shall assign seats prior to boarding consistent with the criteria listed in paragraph (b) and the functions listed in paragraph (d) of this section, to the maximum extent feasible.

(p) The procedures required by paragraph (n) of this section will not become effective until final approval is granted by the Director, Flight Standards Service, Washington, DC. Approval will be based solely upon the safety aspects of the certificate holder's procedures.

(q) The procedures required by paragraph (n) of this section will not become effective until final approval is granted by the Director, Flight Standards Service, Washington, DC. Approval will be based solely upon the safety aspects of the certificate holder's procedures.

(r) The procedures required by paragraph (n) of this section will not become effective until final approval is granted by the Director, Flight Standards Service, Washington, DC. Approval will be based solely upon the safety aspects of the certificate holder's procedures.

PART 135—AIR TAXI OPERATORS AND COMMERCIAL OPERATORS

3. The authority citation for part 135 continues to read as follows:

Authority: 49 U.S.C. 1354(a), 1355(a), 1421 through 1431, and 1502; 49 U.S.C. 106(g) (Revised Pub. L. 97-449, January 12, 1983)

4. New § 135.129 is added to read as follows:

§ 135.129 Exit row seating.

(a) Except for on-demand air taxis with nine or fewer passenger seats, each certificate holder shall determine, to the extent necessary to perform the applicable functions of paragraph (d) of this section, the suitability of each person it permits to occupy a seat in a row of seats that provides the most direct access to an exit (including all of

the seats in the row from the fuselage to the first aisle inboard of the exit or, in cases where there is no aisle, in the closest row or in any seat that has direct access to an exit, hereafter referred to as exit row seats), in accordance with this section. These determinations shall be made in a non-discriminatory manner consistent with the requirements of this section, by the pilot in command, in those cases described in § 135.21(a), when an operations manual is not required, or by persons designated in the certificate holder's manual if it is required by that section.

(b) No certificate holder may seat a person in a seat affected by this section if the certificate holder determines that it is likely that the person would be unable to perform one or more of the applicable functions listed in paragraph (d) of this section because—

(1) The person lacks sufficient mobility, strength, or dexterity in both arms and hands, and both legs:

(i) To reach upward, sideways, and downward to the location of emergency exit and exit-slide operating mechanisms;

(ii) To grasp and push, pull, turn, or otherwise manipulate those mechanisms;

(iii) To push, shove, pull, or otherwise open emergency exits;

(iv) To lift out, hold, deposit on nearby seats, or maneuver over the seatbacks to the next row objects the size and weight of over-wing window exit doors;

(v) To remove obstructions of size and weight similar over-wing exit doors;

(vi) To reach the emergency exit expeditiously;

(vii) To maintain balance while removing obstructions;

(viii) To exit expeditiously;

(ix) To stabilize an escape slide after deployment; or

(x) To assist others in getting off an escape slide;

(2) The person is less than 15 years of age or lacks the capacity to perform one or more of the applicable functions listed in paragraph (d) of this section without the assistance of an adult companion, parent, or other relative;

(3) The person lacks the ability to read and understand instructions related to emergency evacuation provided by the certificate holder in printed, handwritten, or graphic form or the ability to understand oral crew commands in the English language.

(4) The person lacks sufficient visual capacity to perform one or more of the applicable functions in paragraph (d) of this section without the assistance of visual aids beyond contact lenses or eyeglasses;

(5) The person lacks sufficient aural capacity to hear and understand instructions shouted by flight attendants, without assistance beyond a hearing aid;

(6) The person lacks the ability adequately to impart information orally to other passengers; or,

(7) The person has:

(i) A condition or responsibilities, such as caring for small children, that might prevent the person from performing one or more of the applicable functions listed in paragraph (d) of this section; or

(ii) A condition that might cause the person harm if he or she performs one or more of the applicable functions listed in paragraph (d) of this section.

(c) Each passenger shall comply with instructions given by a crewmember or other authorized employee of the certificate holder, implementing exit row seating restrictions established in accordance with this section.

(d) Each certificate holder shall include on passenger information cards, presented in the languages used by the certificate holder for passenger information cards, at each seat affected by this section, information that, in the event of an emergency in which a crewmember is not available to assist, a passenger occupying an exit row seat may be called upon to perform the following functions:

(1) Locate the emergency exit;

(2) Recognize the emergency exit opening mechanism;

(3) Comprehend the instructions for operating the emergency exit;

(4) Operate the emergency exit;

(5) Assess whether opening the emergency exit will increase the hazards to which passengers may be exposed;

(6) Follow oral directions and hand signals given by a crewmember;

(7) Stow or secure the emergency exit door so that it will not impede use of the exit;

(8) Assess the condition of an escape slide, activate the slide, and stabilize the slide after deployment to assist others in getting off the slide;

(9) Pass expeditiously through the emergency exit; and

(10) Assess, select, and follow a safe path away from the emergency exit.

(e) Each certificate holder shall include on passenger information cards, presented in the languages used by the certificate holder for passenger information cards, at all seats affected by this section, the selection criteria set forth in paragraph (b) of this section, and a request that a passenger identify himself or herself to allow reseating if her or she:

(1) Cannot meet the selection criteria set forth in paragraph (b) of this section;

(2) Has a nondiscernible condition that will prevent him or her from performing the applicable functions listed in paragraph (d) of this section;

(3) May suffer bodily harm as the result of performing one or more of those functions; or,

(4) Does not wish to perform those functions.

A certificate holder shall not require the passenger to disclose his or her reason for needing reseating.

(f) Each certificate holder shall make available for inspection by the public at all passenger loading gates and ticket counters at each airport where it conducts passenger operations, written procedures established for making determinations in regard to exit row seating.

(g) No certificate holder shall allow all passenger entry doors to be closed in preparation for taxi or pushback unless at least one required crewmember has verified that no exit row seat is occupied by a person the crewmember determines is likely to be unable to perform the applicable functions listed in paragraph (d) of this section.

(h) Each certificate holder shall include in its passenger briefings a reference to the passenger information cards, required by paragraphs (d) and (e), the selection criteria set forth in paragraph (b), and the functions to be performed, set forth in paragraph (d) of this section.

(i) Each certificate holder shall include in its passenger briefings a request that a passenger identify himself or herself to allow reseating if he or she—

(1) Cannot meet the selection criteria set forth in paragraph (b) of this section;

(2) Has a nondiscernible condition that will prevent him or her from performing the applicable functions listed in paragraph (d) of this section;

(3) May suffer bodily harm as the result of performing one or more of those functions; or,

(4) Does not wish to perform those functions.

A certificate holder shall not require the passenger to disclose his or her reason for needing reseating.

(j) Each certificate holder shall honor expeditiously a passenger's request to be relocated to a non-exit row seat.

(k) In the event a certificate holder determines in accordance with this section that it is likely that a passenger assigned to an exit row seat would be unable to perform the functions listed in paragraph (d) of this section, or a passenger requests a non-exit row seat,

the certificate holder shall relocate the passenger to a non-exit row seat.

(l) In the event of full booking in the non-exit row seats, the certificate holder shall move a passenger, if necessary to accommodate a passenger being relocated from an exit row seat, who is willing and able to assume the evacuation functions that may be required, to an exit row seat.

(m) A certificate holder may deny transportation to any passenger under this section only because—

(1) The passenger refuses to comply with instructions given by a crewmember or other authorized employee of the certificate holder, implementing exit row seating restrictions established in accordance with this section, or

(2) The only seat that will physically accommodate the person's handicap is an exit row seat.

(n) In order to comply with this section certificate holders shall—

(1) Establish procedures that address:

(i) The criteria listed in paragraph (b) of this section;

(ii) The functions listed in paragraph (d) of this section;

(iii) The requirements for airport information, passenger information cards, crewmember verification of appropriate seating in exit rows, passenger briefings, seat assignments, and denial of transportation as set forth in this section;

(iv) How to resolve disputes arising from implementation of this section, including identification of the certificate holder employee on the airport to whom complaints should be addressed for resolution; and,

(2) Submit their procedures for preliminary review and approval to the principal operations inspectors assigned to them at the FAA Flight Standards

District Offices that are charged with the overall inspection of their operations.

(o) Certificate holders shall assign seats prior to boarding consistent with the criteria listed in paragraph (b) and the functions listed in paragraph (d) of this section, to the maximum extent feasible.

(p) The procedures required by paragraph (n) of this section will not become effective until final approval is granted by the Director, Flight Standards Service, Washington, DC. Approval will be based solely upon the safety aspects of the certificate holder's procedures.

Issued in Washington, DC, on February 28, 1990.

James B. Busey,
Administrator.

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